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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

No. ~~291.~~ 37

JOHN R. MOFFITT, APPELLANT,

vs.

SAMUEL B. ROGERS, STEPHEN MOORE, AND HOMER ROGERS.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.

FILED OCTOBER 4, 1879.

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1 UNITED STATES OF AMERICA,
Massachusetts District, ss:

At a circuit court of the United States, begun and holden at Boston, within and for the district of Massachusetts, on Tuesday, the fifteenth day of October, in the year of our Lord one thousand eight hundred and seventy-eight.

Before the honorable John Lowell, district judge.

JOHN R. MOFFITT, COMPLAINANT,
v.
SAMUEL B. ROGERS ET AL., DEFENDANTS. } In equity.

2 The bill of complaint in this cause was filed in the clerk's office on the tenth day of March, A. D. 1876, and was duly entered at the October term of this court, A. D. 1875, and is in the words and figures following:

3 *Bill of complaint.—Filed March* 10, 1876.

To the judges of the circuit court of the United States for the district of Massachusetts:

John R. Moffitt, of Chelsea, in said district, and a citizen of the United States, brings this his bill of complaint against Samuel B. Rogers, Stephen Moore, and Homer Rogers, all of Sudbury, in said district, and all citizens of the United States.

And thereupon your orator complains and says that heretofore and before the twenty-first day of May, in the year 1872, he was the original and first inventor of a new and useful improvement in the manufacture of heel-stiffeners for boots and shoes, more fully described in the letters patent hereinafter mentioned, which said improvement was not known or used before his invention, and was not for more than two
4 years before his application for the said letters patent hereinafter mentioned in public use or on sale; that he duly complied in all respects with the requisitions of the statutes of the United States in such case made and provided, prior to the granting of the said letters patent; and that on the twenty-first day of May, in the year 1872, there were granted to your orator letters patent of the United States for the said improvement, in due form of law, signed by the Secretary of the Interior, and countersigned by the Commissioner of Patents, and sealed with the seal of the Patent Office, granting to him, his heirs or assigns, for the term of seventeen years from the date thereof, the exclusive right to make, use, and vend the said invention, all which by the reissue thereof hereinafter named, or by a certified copy thereof now in court produced and shown to your honors, will more fully appear.

And your orator farther shows unto your honors that afterwards and before the eighth day of December, in the year 1874, he duly surrendered said letters patent and obtained new letters patent of the United States, No. 6162, reissue, and dated December 8, 1874, for the same invention, but upon an amended specification; that said original letter' patent were inoperative or invalid by reason of an insufficient or defective specification; that said defect had arisen by inadvertence, accident, or mistake, and without deceptive or fraudulent intention; that there were granted to your orator, his heirs or assigns, by said reissued letters patent No. 6162, dated December 8, 1874, for the term of seven-

teen years from the twenty-first day of May, 1872, the exclusive right to make, use, and vend the said invention throughout the United States and Territories thereof, all which by said letters patent, or by a certified copy thereof now in court produced and shown to your honors, will more fully appear.

And your orator farther shows unto your honors that the exclusive right so vested in your orator is of very great value and importance, and that the said patented invention has been extensively used by your orator's licensees, and that your orator has never acquiesced in any invasion or infringement of his said exclusive rights.

Yet the defendants, well knowing the premises and the rights secured to your orator, as aforesaid, by the reissued letters patent, No. 6162, dated December 8, 1874, and utterly disregarding the same,
5 have, at Sudbury, in said district of Massachusetts, and at divers other places in the United States, in violation of the rights secured by said reissued letters patent, and ever since the eighth day of December, 1874, unlawfully used said patented invention and manufactured, used, and sold many machines for making stiffeners, each embodying in its construction and mode of operation the invention described and claimed in said reissued letters patent, or material and substantial parts thereof, claimed therein as new, and still continue so to do; and have also manufactured and sold large numbers of heel-stiffeners by the mode or process fully described and claimed in said reissued letters patent, and still continue so to do; and the defendants have derived and are still deriving from such manufacture, use, and sale large gains and profits, but to what amount your orator is ignorant and cannot set forth, and your orator is greatly damaged by such wrongful acts and doings of the defendants.

And your orator farther shows unto your honors that he will be subject to great and irreparable damage unless your honors shall grant the relief hereby sought.

To the end, therefore, that the defendants may upon oath full, true, direct, and perfect answer make to all and singular the matters hereinbefore stated and charged, as fully and particularly as if the same were hereinafter repeated, and they respectively thereunto distinctly interrogated according to the best of their respective knowledge, information, and belief;

And that the defendants and their attorneys, agents and workmen of the defendants, may be enjoined perpetually, and also during the pending of this suit, by writs of injunction to be issued by this honorable court, from making, using, and selling the invention patented in said letters patent, or any material and substantial part thereof claimed in said letters patent as new;

And that the defendants may be decreed to account for and pay over to your orator all the profits that have accrued to them from making, using, and selling said invention or any material and substantial part thereof claimed in said letters patent as new, and that the damages sustained by your orator may be assessed and the defendants be decreed to pay over to your orator, in addition to such profits, the damages your orator has sustained by such wrongful acts and doings.

6 And for such other and farther relief as to your honors may seem meet:

May it please your honors to grant unto your orator, not only the writs of injunction, conformable to the prayer of this bill, but also the writ of subpœna directed to said Samuel B. Rogers, Stephen Moore, and Homer Rogers, commanding them and each of them to appear and

answer to this bill of complaint, and to do and receive what to your honors seem meet.

And your orator will ever pray.

JOHN R. MOFFITT.

J. E. MAYNADIER,
Solicitor and of Counsel for Complainant.

STATE OF MASSACHUSETTS:

On this 10th day of March, 1876, personally appeared the above-named John R. Moffitt, and made oath that he had heard read the above bill by him subscribed, and understands the contents thereof, and that the same are true as therein stated.

Before me.

[SEAL.] WINSLOW WARREN,
Commissioner of U. S. Circuit Court.

This cause was thence continued to the May term of this court, A. D. 1876, when the following answer was filed, namely:

Answer.—Filed by consent August 1st, 1876.

The answer of the defendants to the bill of complaint of said Moffitt.

The defendants reserving to themselves all right of exception as to all matters contained in said bill of complaint for answer thereto or to so much of the same as they are advised is material to be answered, say that they are informed and believe that letters patent,
7 bearing date May 21st, 1872, purporting to grant to the complainant for the term of seventeen years from the date thereof the full and exclusive right and liberty of making, using, and vending to others to be used an alleged improvement in the manufacture of heel-stiffeners for boots and shoes, were issued from the Patent Office of the United States, but upon information and belief they deny that said Moffitt was the first and original inventor of the alleged new and useful improvement in the manufacture of heel-stiffeners for boots and shoes or any part thereof; deny that the same had not been known and used before the alleged invention thereof by said Moffitt, and deny that the same had not for more than two years before said Moffitt's application for said letters patent *were* in public use and on sale, and deny that said Moffitt did in all respects comply with the requisitions of the statutes of the United States in such case made and provided prior to the granting of said letters patent as set forth in the bill of complaint.

The defendants admit that the complainant did obtain new and reissued letters patent of the United States, bearing date December 8th, 1874, for the term of seventeen years from the twenty-first day of May, 1872, but they deny that said reissued letters patent were for the same invention as claimed in the original and surrendered letters patent set forth in the bill; they have no knowledge and cannot say whether or not the description and specification in the original patent issued as aforesaid were defective or insufficient, but they deny that the same were defective or insufficient through inadvertence or mistake and without and fraudulent intention; they upon information and belief deny that the complainant fully and in all respects complied with all the requirements of law in respect to procuring reissued letters patent, and that the same were granted according to law, and deny that by virtue thereof the said Moffitt became or ever has been the sole and exclusive

owner of the rights or privileges alleged to be secured thereby. And the defendants are informed and believe that said original letters patent were not surrendered to correct any mistake or inadvertence therein, or defect or insufficiency thereof, or in the description or specification thereof, but that they were surrendered to claim other alleged inventions or improvements not made, invented, or discovered by said
8 complainant, and they aver that said original letters patent were surrendered with the fraudulent intention to deceive and mislead the public, under a false pretence of a defect and insufficiency in the patentee's original specifications and letters patent by inadvertence, accident, or mistake. And that said reissued letters patent insomuch as they differ from the original letters patent were not for the same alleged invention or improvement, or any part thereof, as the said original letters patent.

And, further answering, the defendants say, upon their information and belief, that the said alleged invention or discovery, process or thing patented as aforesaid, and material and substantial parts thereof had been in public use more than two years before the first application for the original letters patent by the complainant, with the complainant's knowledge and consent, and whatever claim the complainant may otherwise have had, had been abandoned to the public.

And the defendants, upon their knowledge, information, and belief, further answering, deny that they have been or are in any way infringing or have caused others to infringe any rights secured to the complainant by the said reissued letters patent, and deny that they have at any place within said district or elsewhere or at any time since the 8th day of December, 1874, or in any way, place, or manner infringed or violated any rights secured to the complainant in or by his said alleged reissued letters patent, or caused others so to do.

And, further answering, the defendants say that, upon their knowledge, information, and belief, the alleged invention set forth and described in the said letters patent of the complainant is of no utility in machines constructed in accordance therewith, and machines so constructed are not practically working machines; and the complainant well knowing that his said alleged invention was practically useless abandoned it, and has in fact constructed his machines for use not according thereto, but according to the inventions of others and as used by the defendants.

And the defendants, further answering, upon their knowledge, information, and belief, say that the complainant was not the first and original inventor or discoverer of any material or substantial part of the invention, nor of the matters set forth by the complainant as his invention, process, matter, or thing alleged to have been patented in and by his alleged letters patent, and that the alleged invention
9 or discovery, process, matter, and thing patented, or substantial or material parts thereof, claimed as new, were, before his alleged invention or discovery thereof by said Moffitt, invented by Lewis Raymond and described in letters patent of the United States granted to said Raymond as aforesaid, dated August 25th, 1857, numbered 18058, and was also described and set forth in the following letters patent of the United States, viz: Letters patent, dated January 6th, 1863, granted to Samuel J. Seely, of Brooklyn, N. Y., No. 37308; letters patent, dated January 8th, 1856, granted to Reuben Brady, No. 14049; letters patent, dated January 7th, 1868, granted to William Stine, No. 73208; letters patent, dated January 13th, 1857, No. 16395, granted to William Ostrander; letters patent, dated August 1st, 1871, No. 117627, and reissue

No. 6219, dated March 9th, 1875, granted to Jesse W. Hatch; letters patent, dated October 20th, 1868, No. 83209, granted to C. L. Rehn, and also described in the letters patent of the United Kingdom of Great Britain and Ireland, granted to Thomas Browning, dated , 1863, and numbered 2498.

And, further answering, the defendants say that upon their knowledge, information, and belief they have never used, made, or sold the same, or substantially the same, alleged invention, as set forth and claimed in the patent of said complainant alleged, or any part or claim therein, and have not infringed the same or any rights of the complainant therein.

And the defendants further deny that any acts on their part were in defiance of any rights of the complainant, or to his irreparable loss or injury, or have deprived him of great gains and profits which he would otherwise have obtained, and deny any damage on account of these alleged acts.

And the defendants, for the reasons hereinbefore stated, submit that they ought not to be decreed to account for and pay over any gains and profits as in the complainant's said bill is prayed, and that they ought not to be restrained, as prayed in said bill, but without admitting that any other matter contained in said bill of complaint material to be answered unto, and not herein sufficiently answered, is true to their knowledge or belief, submit that the complainant is not entitled to any relief whatever against your defendants. All which the defendants are ready to aver, maintain, and prove as this honorable court shall direct, and pray to be hence dismissed with reasonable costs and charges in this behalf most wrongfully sustained.

SAMUEL B. ROGERS.
STEPHEN MOORE.
HOMER ROGERS.

T. L. WAKEFIELD,
Solicitor, and of Counsel for Defendants.

UNITED STATES OF AMERICA,
District of Massachusetts, County of Suffolk, ss:

On this 28th day of July, 1876, personally appeared Stephen Moore, one of said defendants, and, by me being duly sworn, deposes and says that he has heard read to him the foregoing answer by him subscribed, and that the same is true except as to all matters therein stated on information and belief, and those he believes to be true.

Before me.

THOMAS H. WAKEFIELD,
Notary Public.

UNITED STATES OF AMERICA,
District of Massachusetts, Suffolk, ss:

On this 29th day of July, 1876, personally appeared Samuel B. Rogers and Homer Rogers, two of said defendants, and on oath depose and say that they have heard read the foregoing answer, and that the same is true except as to matters therein stated upon their information and belief, and these they believe to be true.

Before me.

THOMAS H. WAKEFIELD,
Notary Public.

11 The foregoing answer was subsequently amended as follows:

Amendment to answer.—Filed by consent April 4th, 1877.

And the respondents, upon their knowledge, information, and belief, further answering, say that the alleged invention, upon which the letters patent were granted to John R. Moffitt, as set forth in the bill of complaint, and substantial and material parts thereof claimed as new, were, before said Moffitt's alleged making and discovery thereof, described in the following letters patent of the United States, viz: Letters patent of the United States granted to Joel Blood, of Watertown, Massachusetts, dated Sept. 13, 1870, numbered 107216, and letters patent of the United States granted to William E. Lockwood, of Philadelphia, in the State of Pennsylvania, assignee of William E. Lockwood and Henry Howson, dated Sept. 12, 1865, numbered 49952, and in the specifications thereof, and in the application therefor.

SAMUEL B. ROGERS.
STEPHEN MOORE.
HOMER ROGERS.

DISTRICT OF MASSACHUSETTS,
Suffolk, ss:

BOSTON, *December 29th*, 1876.

Then personally appeared Sam'l B. Rogers and Stephen Moore, and on the 1st day of January, 1877, personally appeared Homer Rogers, and severally made oath that the foregoing answer by them subscribed is true according to the best of their knowledge and belief.

Before me.

THOS. H. WAKEFIELD,
Notary Public.

At the said May term of this court, A. D. 1876, the following replication was filed, namely:

Replication.—Filed August 1st, 1876.

This repliant, saving and reserving unto himself all and all manner of advantage of exception to the manifold insufficiencies of said answer, for replication thereunto say that he will aver and prove his
12 said bill to be true, certain, and sufficient in the law to be answered unto; and that the said answer of the defendant is uncertain, untrue, and insufficient to be replied unto by this repliant; without this, that any other matter or thing whatsoever in the said answer contained material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things this repliant is and will be ready to aver, maintain, and prove as this honorable court shall direct, and humbly prays as in and by his said bill of complaint he has already prayed.

By his solicitor, J. E. MAYNADIER.

12*a* This cause was thence continued from term to term to the October term of this court, A. D. 1877, when publication of the evidence was had, and the cause was set down for hearing and fully heard on the twenty-ninth and thirtieth days of October, A. D. 1877, before the honorable George F. Shepley, circuit judge. This cause

was thence continued to the May term of this court, A. D. 1878, when, the honorable George F. Shepley, circuit judge, having deceased before rendering any decision in this cause, it is ordered by the court, the honorable Nathan Clifford, associate justice, sitting, that this cause be reargued. This cause was thence continued to the present October term of this court, A. D. 1878, when, the honorable John Lowell, district judge, sitting, on motion of defendants, this cause is opened for the taking of additional evidence concerning the state of the art,
12*b* subject, however, to any order that may hereafter be made as to the costs accrued or to accrue, and such additional evidence being taken, publication of the same is had, and the cause is set down for hearing and fully heard on the fifteenth and seventeenth days of March, A. D. 1879, before the honorable John Lowell, district judge, sitting and holding this circuit court, and after due deliberation thereon had, the said honorable John Lowell, now circuit judge, sitting, the opinion of the court is read, and it is thereupon, to wit, April 23, 1879, ordered, adjudged, and decreed that the bill of complaint in this cause be, and the same is hereby, dismissed, with costs for the defendants taxed at .

From this decree the complainant in open court claims an appeal to the Supreme Court of the United States, and gives good and suffi-
12*c* cient security that he will prosecute his appeal to effect, and answer all damages and costs if he fails to make his plea good, and said appeal is allowed accordingly.

A true record.

Attest:

JOHN G. STETSON, *Clerk.*

The following is the evidence used in the hearing of said cause before said circuit court on the fifteenth and seventeenth days of March, A. D. 1879:

EVIDENCE FOR COMPLAINANT.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended.

Before me.

CHAS. F. SLEEPER,
Special Examiner.

Present, James E. Maynadier, esq., of counsel for complainant.
" Thomas L. Wakefield, esq., of counsel for defendants.

12*d* *Deposition of Albert H. Spencer.*

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

BOSTON, *April* 9, 1877.

Int. 1. State your name, age, residence, and occupation.

Ans. Albert H. Spencer; 39; Boston; solicitor of patents and expert in patent causes.

Int. 2. How long have you been a solicitor of patents and expert, and what experience have you had in regard to patents and as expert?

Ans. For two or three years past I have given my entire time to these branches of business, and during that time I have testified

13 frequently in patent suits; but for ten years past I have from time to time testified in matters in litigation relating to patents. I am now retained under a large number of patents as expert.

Int. 3. Have you examined letters patent, reissue No. 6162, dated December 8, 1874 (a copy of which is now put in evidence and marked Exhibit Moffitt Reissue, C. F. S., not. pub.), and do you understand the construction and operation of the machine therein described, and the operation of the process therein described?

Ans. Yes.

Int. 4. Have you examined letters patent, reissue No. 5896, dated June 2, 1874, and reissue 7356, dated October 24, 1876, both to Louis Coté, and do you understand the contrivance therein described? (Copies of both said reissues are here put in evidence and marked Exhibit Coté Reissue No. 1, and Coté Reissue No. 2. C. F. S., not. pub.)

Ans. Yes.

(The defendants here admit that the South Sudbury Manufacturing Co., a corporation established by the State of Massachusetts, manufacture and use machines substantially such as are described in the Coté reissues just put in evidence, except that they lack the elastic cushion; and also that the defendants were among the original corporators and have always been stockholders and directors in said corporation, and managing agents thereof, and that said company has so manufactured and used since the 8th day of December, 1874.)

Int. 5. Compare the machines described in the Moffitt and Coté reissues as to their substantial identity or difference, stating fully your reasons for any opinions you may express.

Ans. The machines described in the Moffitt and Coté reissues are for the manufacture of heel-stiffeners for boots and shoes, and consist of a rotary former, resting upon a proper support, the former and the support having a contour substantially identical in shape, so that the former will shape the inner surface of the counter, and its support will shape the outer surface, as the counter-blank is passed between the two. The concavity of the support and the convexity of the former are substantially uniform in shape, so as to give to the counter formed between them nearly a uniform thickness in its various parts. In the machine described in the Moffitt reissue the support for the

14 former consists of three rollers, upon which the former rests when a counter is not interposed, and the former comes in contact with each of these rollers in a single line on their surfaces.

In the Coté machine the support is a single concave bed conforming in shape to the former, and this concave surface represents the filling up of the spaces between the lines of contact of the former and the rollers in the Moffitt machine; in other words, the Coté machine has a continuous supporting surface in one solid block, while in the Moffitt machine the support is by the three rollers, having surface lines conforming to those of the former.

A counter passing through the Moffitt machine is at three different lines of its surface pressed between the former and its support, while in the Coté machine it is pressed, more or less, at all points; that is, it is pressed in portions of its surface lying between the lines of contact which I have described as occurring in the Moffitt machine.

Moffitt's former is described as having a reciprocating rotary motion, or that it may be continuously revolved in either direction, while the Coté machine is intended to have a revolution of the former in one direction continuously.

The action is the same in either case, the counter being pressed and rubbed between the former and its support.

In each machine there is formed a space between the end of the former and the corresponding part of its support, into which a portion of the counter-blank is forced to form a flange thereon, which flange is turned inward, as shown in Fig. 6 of Moffitt's drawing. Each of these machines provides for a degree of adjustment between the former and its support; the Moffitt patent showing a swing-frame to which the former is attached by its bearings, and in the Coté machine two adjusting screws are shown, and also an elastic cushion, which may or may not be used.

The former in the Coté machine is represented as cylindrical in cross-section, and hence but a slight adjustment is necessary between it and its supporting bed. The Moffitt former, having more of a heel form, or being longer in one diameter than in another, requires a greater degree of adjustment if it is made to revolve; but with the reciprocating rotary motion of something less than an entire revolution, of which he speaks, the degree of adjustment will be materially lessened.

15 From what I have said, it will be seen that, although differing in form somewhat, the construction and operation of the two machines is substantially identical. The essential parts of each are the same, namely, the former having a motion about a centre and a proper support for such former, and these parts so mounted with relation to each other as to permit a counter-blank to be passed between them, by which means the counter is pressed and rubbed into shape and a flange formed thereon; the former giving the required shape to the interior of the counter, and the support shaping the outer surface thereof, pressing and rubbing the same to give a permanent set of the shape desired. Each of these machines embraces "a turning or revolving former in combination with mechanism for holding and shaping the blank over it"; the differences in construction are of minor importance.

Int. 6. Please make the same comparison as to the processes described in the two patents, and especially referred to in the third clause of claim of the Moffitt reissue and the fourth clause of claim in the Coté reissue No. 2.

Ans. The processes described in the two patents under consideration consist in passing between the former and its support a properly prepared blank or piece of the material to be bent into the desired shape, and when so bent to be compacted by rubbing and rolling so as to permanently retain the heel form which had been given it. The operation of each machine is such as to give to the outer surface of the counter a much greater degree of solidity than it possessed before treatment in the machine, and this solidity or compactness of the surface is due both to the pressing and rubbing to which it is subjected. The formation of the flange upon the blank in each case, in its passage through the machine, and the folding and crimping of this part of the stock and the subsequent rubbing which it undergoes before it leaves the machine, tend in each case to set the shape into a permanence of form which is very important in this manufacture.

In the Coté machine there is a greater degree of friction upon the outer surface of the counter than in the Moffitt machine, because of the rotation of Moffitt's supporting rollers, but these rollers being of different diameters in different portions of their length, necessa-

16 rily give more or less of a rub to the surface of the counter. The

Coté machine would evidently do its work more rapidly, so far as the rubbing action is concerned, but aside from the question of speed, they would work with equal efficiency.

There is a substantial identity in the processes described in the patents and claims referred to, due to the similarity of the machines in construction and operation, as well as to the similarity of the material operated on. The steps taken are the same, substantially, in each case; follow each other in the same order; and result in the production of a similar article.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 7. In the operation of the Moffitt machine, does the counter-blank necessarily receive friction at all points on its outer surface?

Ans. I think so.

Cross-int. 8. In your judgment, if the rollers constituting the support and the former were all of equal diameters throughout, would there be any friction produced in passing the blank through substantially as described in the Moffitt patent?

Ans. Not necessarily.

Cross-int. 9. Would there naturally be, in ordinary use?

Ans. Yes; because the power is applied to the former to rotate it, and it is by friction of the former upon the counter, and of the counter upon the supporting rolls, that motion is given to those supporting rolls.

Cross-int. 10. In that operation would there, in your judgment, be any rubbing effect produced on the counter to any considerable extent?

Ans. If there were no friction in the roller bearings and no inertia in the rollers, I think there would not. There is a tendency, however, where an article is passed between independent rollers, for that roller to which power is applied to gain upon the other, and this would produce a certain degree of friction between the material and the rollers.

Cross-int. 11. Would that friction be on the inner or outer side of the counter?

Ans. On both sides.

Adjourned.

17 BOSTON, *April* 13, 1877.

Cross-int. 12. In your judgment would the mode of operation of the Moffitt patent be substantially the same, and the effect produced substantially the same, if but one roller were used with the former, as would be if the three rollers were used as described in his reissue patent?

Ans. The mode of operation would in my opinion be substantially the same in both cases; that is the counter would be made to conform to the shape of the former by pressure and by a rubbing action, although there would be less of the latter than if the three supporting rollers were used; and with this exception the operations would be similar. The flange would be formed, and rubbed, and set into shape in one direction as when the three rolls were used; that is it would be turned inwardly toward the axis of the former; but the forward ends of the counter, or those farthest from its longitudinal centre, would not be brought into proper position except by the hands of the operator. In other words, two or more supports at a perceptible distance from each other are necessary to press the counter along two or more lines against

the former to give the longitudinal curve to the counter. The rollers C^1 C^2 aid materially to draw and shape the counter, since they hold the ends in contact with the former while other parts are shaped by the former and the roller C.

Cross-int. 13. Whether or not in your judgment there is any substantial or material difference in the mode of operation of machines described in the Moffitt patent or in the Coté patent when the support is stationary like that in the Coté patent or when it revolves like that in the Moffitt patent?

Ans. The Moffitt and Coté machines are in my judgment substantially the same in their mode of operation, for the reasons I have heretofore given.

Cross-int. 14. Whether or not, in your judgment, the shapes of the former described in said patents respectively have any substantial difference in their effect upon the stiffener produced and the mode of operation of the machine?

Ans. The cylindrical character of the Coté former with the semi-cylindrical bed in which it revolves tends to produce a cylinder
18 of the counter material, partially closed at one end by the flange formed by the machine; while the true heel form of the Moffitt former has not this tendency, since the ends of the blank are at all times kept at the proper distance from each other. If the blank put into the Coté machine was only about long enough to reach half way around the former, its ends could not, of course, be brought into too close proximity for a counter, and in such case there would be no cylinder formed and no difference in the shape of the product of the machines. The irregular form of Moffitt's former requires a difference in the degree of separation of the former and supports when the former revolves, from what is necessary in the Coté machine; but I gather from the Moffitt patent that a reciprocating, semi-rotary motion to the former is the most practical. Whether the former makes a half revolution as in Moffitt or a whole one as in Coté is not, in my opinion, a substantial or material difference.

ALBERT H. SPENCER.

Attest: CHAS. F. SLEEPER, *Special Examiner.*

EVIDENCE FOR DEFENDANTS.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

THOMAS H. WAKEFIELD,
Special Examiner.

Present: J. E. Maynadier, esq., of counsel for complainant, and Chauncey Smith, esq., and T. L. Wakefield, esq., of counsel of defendants.

Deposition of Hervey Waters.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

BOSTON, *May* 1, 1877.

Int. 1. State your name, age, residence, and occupation, and what has been your experience in the examination and consideration of

19 matters involving mechanical constructions of different sorts and their comparisons with other mechanical contrivances, for the purpose of discovering and explaining resemblances and differences?

Ans. Hervey Waters; age, 72; reside in Boston, Mass.; and am a machinist, and am accustomed to testify in patent causes concerning mechanics, in which latter occupation I have had an experience of something more than twenty-five years.

Int. 2. Have you examined and are you familiar with the contrivance shown in the patent of John R. Moffitt, reissue numbered 6162, dated Dec. 8, 1874, for an improvement in the manufacture of heel-stiffeners for boots and shoes?

Ans. Yes; I am familiar with it.

Direct examination continued by CHAUNCEY SMITH, Esq., of counsel for defendants:

Int. 3. State whether you have ever seen a machine constructed like that described in the patent. If so, will you produce it to be marked as an exhibit in this case?

Ans. I have; and the machine is here for that purpose.

(Counsel for defendants here offers in evidence the machine referred to, and the same is marked Exhibit A, T. H. W., examiner.

Objected to, because in the opinion of complainant's counsel the exhibit does not fairly represent the machine described in the patent referred to.)

Int. 4. Will you state whether this machine is constructed strictly in accordance with the description in the specification of the patent above referred to, including the drawings?

Ans. It is.

Int. 5. Have you witnessed the operation of this machine sufficiently to understand its mode of operation or manner of working? If so, will you state what you observed in regard to the results of operating the machine in the manner described in the patent?

Ans. I have seen the machine operated, as far as it will operate according to the instructions of the patent, both on leather and on leather board, and the result was a perfect failure for the purpose of producing the heel-stiffener described in the patent, or of any heel-stiffener such as could be built into a shoe without lasting the leather after it came from the machine.

20 The machine can do a little toward shaping a stiffener of leather, so far as regards the swell about the heel, but it can't make the heel-seat of a stiffener either on leather or leather board, nor can it so change the molecular arrangement of the leather or leather board, so as to get it into the form of a heel-stiffener, nor so that it will retain the appropriate form which can be given to it by the machine, to any useful extent, so far as I have been able to discover. To state it briefly: I should say that the machine is good for nothing for the purpose of making heel-stiffeners, in my judgment.

Int. 6. Will you produce a specimen of the article which you mention as leather-board, and state if you know whether it is used to any extent in the manufacture for heel-stiffeners for boots and shoes?

Ans. This is what I have called leather-board.

(Witness here produces a piece of leather-board, and the same is offered in evidence and marked Exhibit B, T. H. W., examiner.)

I do not know of my own knowledge to what extent this leather-board is used for heel-stiffeners, but I understand it is used to a very large extent, if not to a greater extent than any other article at the present time.

Int. 7. Did you find the machine to operate any better, or worse, or differently, upon this leather-board than it did upon leather?

Ans. Worse. The leather-board puckers much worse in this machine than leather; but both of them pucker about the heel-seat, or where the heel-seat should be, and the leather-board puckers between the rollers other wheres than at the heel-seat.

Int. 8. Have you examined the two reissued patents offered in evidence by the complainant, one granted to Louis Coté and numbered 5896, and the other being a second reissue granted to the same party, and numbered 7356? If so, will you state whether you understand the construction and operation of the machine therein described?

Ans. I have examined the patents inquired of, and understand the machine described therein and its mode of operation.

(Counsel for defendants offer in evidence a machine which is marked Exhibit C, T. H. W., examiner.)

Int. 9. Will you look at the machine now produced and marked Exhibit C, and state how far it corresponds with or differs from the machine described in the two Coté reissues referred to?

21 Ans. It is substantially the same machine as that described in the reissues, in its construction and mode of operation. There are some specific differences between the two, but the differences are not essential or vital. In the machine described in the patents the shaft upon which the rotary head is mounted has it journals upon each side of the rotary head, while in the machine Exhibit C, the rotary head is mounted upon one end of the shaft, the journals being both upon one side of the rotary head. The arrangement in Exhibit C is the most convenient, because the leather-board to be shaped can be more conveniently and accurately presented to the machine than can be done when the arrangement is as represented in the patents. Moreover, there is described in the patents a rubber spring between the adjusting screw and the mold, in order that the mold may readily yield to different thicknesses of material, but I do not find this spring in Exhibit C. There is a little spring in the shaft in Exhibit C, when put to its work, as much as is necessary for the purposes of working the leather-board which I understand to be pretty nearly of a uniform thickness throughout its different parts.

Int. 10. Will you look at the stipulation following the 4th answer of complainant's witness, Spencer, and state whether you find the machine Exhibit C to be constructed substantially in accordance with that stipulation?

Ans. I believe so.

Int. 11. Have you ever seen the machine Exhibit C operated; if so, upon what material and with what results?

Ans. I have seen it operated upon leather-board by introducing into the machine a piece of leather-board similar to Exhibit B which was passed through the machine, and the result is to transform that flat board into the article which I here produce to be marked as an exhibit.

(Witness here produces the article referred to, and the same is offered in evidence and marked Exhibit D, T. H. W., examiner.)

Recess, 1 to 2.

Resumed at 2.

Int. 12. Will you now compare the machine described in complain ant's patent Moffitt's reissue, numbered 6162, with the machine
22 described in the reissued patents numbered 5896 and 7356 above

referred to, modified in the manner stated in the stipulation to which you have been referred, and state how you find them to agree or disagree substantially?

Ans. I find them to disagree substantially. My reasons for saying they are different are as follows:

The Coté machine is a useful machine for shaping the heel-stiffeners, doing its work well, as is obvious from an examination of Exhibit D, while the Moffitt machine is a useless machine for a similar purpose, in my opinion. The reasons for this difference are not very difficult to understand.

The Moffitt machine is made to operate by a system of rollers, so far as it will operate, and Moffitt in his patent says:

"The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any molding process, but to make a rolled counter prepared, solidified and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a better article and admitting of producing the same from material hitherto found too intractable, such as leather-board, sheet-metal, etc.

"Instead, therefore, of shaping the stiffener in a mold I employ no mold of any kind, but use a moving former A, devised by me of a shape adapted to give the desired shape to the counter and set on a shaft B, the shaft being arranged to have a continuous or a reciprocating rotary movement, either by hand or by power as desired.

"Beneath this former I place supports or rollers C, C^1 and C^2 (see Figs. 4 and 5), each having a profile as shown the converse of, and conforming to, that of the former." * * * * * * * Now, there is no difficulty in understanding what this machine is, and how it was supposed it would operate. On reference to Fig. 1 of the drawings, Sheet 1, it will be seen that the former has a square top at *g*, but there is a modified form of that former represented in Fig. 3 of the drawings, Sheet 1, and the patent says that in operating this machine the leather or other material to be formed is to be laid upon the two rollers C^1 and C^2 represented at Fig. 4 of Sheet 2, and then the former A is to be brought down upon the piece, forcing down the two yielding rollers C^1 and C^2
23 and bringing the piece to be shaped to bear upon the three lower rollers C, C^1 and C^2. Now, it is obvious that the patent is correct in one thing, and that is in its statement that this contrivance is not a mold, because the former can only touch the rollers in three lines; it cannot touch them so as to form a mold, because the three lower rollers are and must be round, they can be made to fit the former in three crooked lines in the direction of the axis of the former but they cannot be made to fit the former in the direction of its circumference, and it is because that they can't be made to so fit the former that this machine cannot do its intended work. Going now to the Coté contrivance described in the two reissues inquired of in a previous question, and to the machine marked Exhibit C, I find an entirely different machine from the machine described in the Moffitt reissue just before referred to. I have before me the reissue to Coté numbered 7356. In this patent I find as follows:

"The invention or machine consists mainly of a rotary head of a spherical, spheroidal or sphero-cylindrical shape, fixed upon and concentrically with a rotary shaft in combination with a stationary mold correspondingly or approximately so concaved whereby by the revolution of the said rotary head within the mold a piece of leather of suitable form introduced between them may be drawn into and through the concavity of the mold and receive a curved form lengthwise and be

withdrawn and thereby be adapted for use as a stiffening for a boot or shoe."

Now there is no rolling action here such as takes place in the Moffitt machine where the former acts as a roller in combination with other rollers, but there is a mold acting in combination with a former, into which mold the piece to be formed is drawn by the surface of the former, the piece being kept to that surface by the mold and the principal forming of the stiffener is accomplished in this Coté contrivance by the very act of drawing it between the former and the mold which correspond in form not only in the direction of the length as they do in Moffitt, but also in the direction of the circumference of the former, as the rolls do not in Moffitt, and this is the reason why this machine will work to shape stiffeners while the Moffitt machine will not, as I understand it.

Now it should be observed that nothing but a concentric former or a former round in the direction of its circumference can operate in
24 connection with a shell or mold for the purpose of shaping stiffeners in this contrivance of Coté, therefore the former of Moffitt cannot work in connection with a shell or mold such as is described in this Coté patent working in connection with its former. And in speaking of the Moffitt former I have regard to both of them, the one represented at Fig. 1 of Sheet 1 and the other at Fig. 3 of the same sheet.

It is true undoubtedly that the round former of Coté can be used in combination with rollers such as the Moffitt former is combined with in the machine described in the Moffitt patent upon which this suit is brought, but it can't make counters like Exhibit D if it is put in there, I believe, and the reason is the three lower rollers in the Moffitt contrivance are not the equivalent of the mold in the Coté contrivance.

But the Coté former cannot be used in connection with the lower rolls of Moffitt in any other way than in the way described in the Moffitt patent, and that is by beginning to shape the piece at the middle and working toward each end, while in the Coté contrivance the shaping begins at the end and ends at the end, the piece being entered by its end into the machine, and it is only in this way that the machine can be used as the Exhibit C is constructed.

If it were attempted to enter a piece in this way in the Moffitt contrivance it would never go through the machine, I believe, but it would go out somewhere between the lower rolls, I believe, before it would go about, if the thing were left to itself.

I have said that the machine Exhibit C was so constructed that it could not be used according to the directions in the Moffitt patent by first commencing to mold the piece at its middle instead of at one end, and I now say that although the machine might be so constructed that a piece might be entered in that way, I doubt whether such machine would properly mold a stiffener into the form of Exhibit D. I think the peculiar mouth represented at C^1, at Fig. 2 of the drawings of the Coté patent, is essential to the success of that machine, and it will be seen, on reference to the machine Exhibit C, that that peculiar shaped lip or mouth extends around upon the end of the former so as to take in the leather-board and form the heel-seat which is upon Exhibit D.
25 There is no such contrivance as this in the Moffitt machine, and without this the Coté machine cannot operate, in my judgment.

Int. 13. Will you refer to the first two claims of the Moffitt reissue, and, without undertaking to construe them, will you state what difference there is in the mechanism or combinations described in these two claims, having reference to the description and drawings for ascertaining the things to which the terms apply?

(Objected to because the inquiry is as to a question of law not within the province of the witness.)

Ans. I don't see any difference. They seem to be taken out of an abundance of caution and show the average craft of the average patent solicitor.

Int. 14. Will you look at the original Moffitt patent, numbered 127090, a copy of which is now offered in evidence, and see whether their Fig. 4 of the drawing shows a modification of the machine different from that in Figs. 1, 2, and 3, and state what the difference is if you find one?

(Counsel for defendants here offers in evidence the paper referred to, and the same is marked Exhibit E, T. H. W., examiner.)

Ans. It does. At Fig. 4 three rollers are shown in combination with the former, and at Figs. 1, 2 and 3 only one roller is shown.

Int. 15. Will you state whether you find in the original patent the machine and its action described primarily with reference to the single roller, and whether or not you find the two additional rollers suggested as a mere alternative?

Ans. Yes. In the original patent I find as follows:

"Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving 'former,' A, devised by me, of a shape adapted to give the desired shape to the counter, and set eccentrically on on a shaft, B, the shaft being arranged to have a continuous or a reciprocating rotary movement, either by hand or by power, as desired. Beneath this 'former' I place a roller, C, having a profile as shown, the converse of and conforming to that of the 'former,' the shaft of the roller having its bearings in the main frame D." * * * Further on in the patent I find as follows:

"Instead of a single roll a pair of auxiliary rolls may be used, as shown in Fig. 4, one on each side of the single one, and each
26 having a yielding support by means of a spring or weight, whereby it may, as the 'former' revolves or moves, be forced up against the material being rolled to shape, and serve to hold it close against the 'former,' the weights or springs allowing such auxiliary rolls to recede as the motion of the 'former' may demand."

Going now to the claims of the patent, I find the first claim to read as follows:

"The described apparatus for rolling to shape heel-stiffeners or counters."

Int. 16. Do you consider the language of this claim you have quoted to aptly apply to the apparatus and its operation in either or both of the forms suggested in the description?

(Objected to as before.)

Ans. Yes, to either the machine with the single roll or to the machine with the three rolls.

Int. 17. Will you refer to the third claim of the Moffitt reissue and state whether the defendants' machine embodies any process for forming the heel-seat of a counter such as can be performed by the machine described in the Moffitt patent?

Ans. No, it does not. The process here described, as I understand it, is the peculiar action of the large part X of the lower roller C, as seen on Fig. 2 upon sheet 1 of the Moffitt reissue. It is undoubtedly true that this part X of the roller C will produce a rubbing action upon the leather or other material between itself and the roller A, provided the roller A be kept tight down upon the roller C, tighter than the flange X bears against the roller A, or what is between itself and the roller A in both cases, and this is because that if the roller C be driven about

at its smallest part by the roller A, which comes against the largest part of said roller A, then the flange X upon the roller C will travel faster than the leather or other material between itself and the roller A travels and therefore produce a rubbing action upon the leather or other material at that point, and the claim says it is for this in combination with the rolling action and some other action in which the process consists, as I understand it. Now there is no such action as this is the Coté machine, for in the first place there is no rolling action in the Coté machine such as takes place in the Moffitt machine between the
27 rollers A and C at the small part of A and C, and in the second place there is no such rubbing action as takes place by the flange X, because such rubbing action as does take place by the flange X is the action of a roller rubbing against the leather or other material, due to the excess of motion of the roller flange X over and above the motion of the leather between the rollers A and C. Now the roller X can bear upon the leather only in a single line so long as the leather or other material conforms to the roller A.

Going now to the Coté machine, there is undoubtedly a rubbing of the leather against the inside of the mold, caused by the driving forward of the leather in that mold by the corrugated former, while the mold remains stationary; while such rubbing as there may be in the Moffitt machine is due to the fact that the leather which is upon the former and moving forward is overreached by the flange X, which moves forward faster than the leather does.

Adjourned to May 2, at 10.30 a. m.

Resumed May 2, at 10.30 a. m.

Int. 18. State if you know whether or not at the date of Moffitt's original patent, May 21, 1872, or at any time before or since that date, such molds as those described in the Coté patent or shown in Exhibit C were commonly known among mechanics as a proper substitute for the three rolls C, C^1, C^2, or either of them, in combination with a former like that described in the Moffitt patent, or in any other mechanism for accomplishing results similar to those attributed to the Moffitt machine. (Objected to because the question assumes want of novelty.)

Ans. I don't know of any such substitution or use of one for the other as inquired of in the question, or at least I do not now think of any such substitution which has ever come to my knowledge. The only instance that I now think of where a shell working with one roller was used in the place of two rollers working together is in the feeding of fibrous materials to carding-machines or picking-machines, but in that instance the rolling process is not practised for giving any form to the material passed between the two rollers, nor is the shell with the roller used for any such purpose, but they are used merely as feeding devices to move forward and present to the machine the fibrous material uniformly.

28 Cross-examination by J. E. MAYNADIER, Esq., of counsel for complainant:

Cross-int. 19 (de bene). Did you have machine Exhibit A made or was it made under your charge and direction?

Ans. I think the correct answer to that is No, except to the last part of the question. All the directions that I gave about it was to make it as near that described in the patent as possible and make it well.

Cross-int. 20 (de bene). When you answered the 4th int. you did not

know, did you, that the patent spoke of the rollers C, C^1, and C^2 as each having a profile "the converse of and conforming to that of the former," and also spoke of the rolls C^1 and C^2 as being "forced up against the material being rolled to shape" and serving to hold the material "close against the former," and also that the whole surface of the blank is rolled, and "the rollers act on all parts coming between their peripheries," and in brief that the written description is absolutely clear that th rolls C^1 and C^2 are nothing like the rolls in Exhibit A.

Ans. I believe I knew pretty well what was in the patent, but I believe I did not believe all that the patent said. I believe that I found in the patent this language, and I am sure I find it there now, viz: "Beneath this former I place supports or rollers, C, C^1, and C^2 (see Figs. 4 and 5), each having a profile, as shown, the converse of and conforming to that of the former." Now I find on reference to the Figures 4 and 5 that the rollers C^1 and C^2 are shaped substantially as the rollers in Exhibit A are shaped, and my custom is in reading patents to rely upon the drawings when they are so made as to show clearly what they describe or represent. It is not difficult to make two sets of words to describe the same thing, but it is difficult to make two sets of drawings to describe the same thing when they, the drawings, are substantially different; but if they are alike they may describe the same thing, and I suppose this to be the very purpose of drawings in a patent, to make certain what cannot be made certain with words in the description of machines.

Cross-int. 21 (de bene). Can you account in any way for the fact that you preferred to rely upon a manifest error in these two figures of the drawings rather than upon the clear and unequivocal description, unless it be by the natural bias of an expert and the natural desire of an expert to defend his clients; and, if you can, please do so?

Ans. I have never found it profitable to undertake to account for a fact until the fact is established, and as this fact is not established I do not care to undertake to account for it; and in addition to this I will state here that the machine Exhibit A is, according to my best judgment, made in accordance with the directions of the reissue 6162. There are a great many things said in this patent that are not true, but there is no difficulty in understanding what is described in it as a machine. There is difficulty in understanding how the machine will act as the patent says it will.

Cross-int. 22 (de bene). It seems to me very clear that you have preferred to rely upon the manifest error in Figs. 4 and 5 in your direct testimony as to Exhibit A, and also in your preceding answer, rather than upon the entirely clear, simple, and plain language of the description; do you agree with me or not as to this?

Ans. No.

Cross-int. 23 (de bene). You do not think of course that the two side-rolls in Exhibit A conform to the former or act upon the whole surface of the blank, do you?

Ans. They conform to the former as far as they do act, but they do not act upon the whole surface of the blank.

Cross-int. 24 (de bene). Do you believe that these side-rolls in Exhibit A answer at all fairly the description of the rolls C^1 and C^2 as contained in the letter-press of the patent?

Ans. Perhaps not, if no reference is had to the drawings.

Cross-int. 25 (de bene). Isn't it clear to you that the description of these rolls C^1 and C^2 in the letter-press of the reissue contradicts Figs.

4 and 5 of the drawings, so far as the shape of the side-rolls C^1 and C^2 is concerned?

Ans. No, it is not. If the drawings are disputed by the letter-press of the patent at all it is in the following quotation, which I have already quoted twice from the patent, I believe: "Beneath this former I place supports or rollers, C, C^1, and C^2 (see Figs. 4 and 5), each having a profile, as shown, the converse of and conforming to that of the former." I don't see anything else in the letter-press of the patent that disputes the drawings; if the
30 counsel does, will he be kind enough to point it out; and, moreover, I do not think that the letter-press here disputes the drawings. The roller C has its contour to fit the roller A for a greater proportion of its length than the rollers C^1 and C^2 do, according to the drawings.

Cross-int. 26 (de bene). Have you any doubt whatever that in the machine intended to be described in the reissue 6162 all three of these rollers were intended to fit the former throughout their lengths? You will observe that I do not ask why, but only whether you doubt or not.

Ans. I haven't the slightest idea of what was intended to be described in this patent, but I think I do know what is described in it.

Cross-int. 27 (de bene). Is there anything whatever in the description and drawings of the reissue, except the two dotted circles around the axes of the rolls C^1 and C^2 in Fig. 4 and the side view of the roll C^2 in Fig. 5, which you think justifies you in swearing that Exhibit A is constructed strictly in accordance with the description in the specification, including the drawings; if so, please point out everything fully?

Ans. Yes. The letter-press of the patent states that the rolls are to be made like those drawings in the quotation which I have made three times.

Cross-int. 28 (de bene). In Fig. 5 the roll C^2 is shown with a bearing at only one end, and I see that your machine Exhibit A has a bearing at both ends; did you overlook this error in the drawings or did you regard it as too trifling to make a point of?

Ans. I don't see any such error in the drawings as the question supposes.

Cross-int. 29 (de bene). In your opinion, is there in your machine Exhibit A any "mechanism for holding and shaping the blank over" the former?

Ans. There is something there which seems to be intended for that purpose but will not do it.

Cross-int. 30 (de bene). In Exhibit A that end of the former over which the flange of the counter is intended to be shaped is globular, while it is flat in the reissue; do you agree with me as to this, and, if so, explain why this change was made?

31 Ans. No, I do not; they are both globular, both the machine Exhibit A and the machine described in the reissue. There is a flat end shown on the roller A at Fig. 5 of the reissue, but there is nothing to work in connection with it to bear the piece to be shaped up against that end.

Cross-int. 31 (de bene). Do you dispute that the end of the former in Exhibit A, which corresponds to the right-hand end of the former in Fig 5, differs from it in that in one it is globular and in the other flat?

Ans. I do not know what you mean by correspond. I have already said that the end of the former in the roller A in the reissue is flat, but that there is nothing to correspond with it and work with it to make a flat seat.

It is true that in the machine Exhibit A the former is not cut off as flat at the end just about the axis upon which it works as is represented in Fig. 5, but this will not make any difference in the working of the machine, because neither of the machines does any work there.

Cross-int. 32 (de bene). Do you know any reason why the former in Exhibit A was made globular instead of flat at that part?

Ans. No, I do not; there is no work there, because the other roller does not come up there. I notice that at Fig. 2 upon sheet 1 of the drawings the roller or former A is rounded up to a point nearer its axis than is represented at Fig. 5 upon sheet 2, and it is quite likely that the workman who made the machine followed Fig. 2 rather than Fig. 5.

Cross-int. 33 (de bene). You believe that the end of the former in question in Exhibit A corresponds with that shown in Fig. 2 of the reissue; it seems to me very clear that one of these is globular and the other flat?

Ans. Yes, substantially, for the purpose, of seeing what the machine can do and what it cannot do, and I will say the same in regard to Fig. 5 upon sheet 2.

Cross-int. 34 (de bene). I have no doubt whatever that the workman who made Exhibit A was not animated by a desire to make the machine work, and was animated by a desire to make it a failure; do you agree with me or not?

Ans. I don't know anything about this. I haven't seen the workman.

32 Cross-int. 35. You never have been practically concerned at all in the manufacture of leather-board or articles of any kind made from leather-board, have you?

Ans. No.

Cross-int. 36. And you never have had anything to do with the manufacture of counters of any kind as a matter of business, have you?

Ans. No.

Cross-int. 37. I suppose you will agree with me that Exhibit C and the machine shown in the Moffitt patent are substantially alike in this respect, namely, that both have a male mold or former mounted upon an axis or shaft?

Ans. Not quite. The Coté former, as you call it, is not a male mold per se; I never knew of any such mold; nor is it a former per se; taken in connection with the shell they constitute a mold and former.

Cross-int. 38. And also that in both machines the counter-blank moves with and relatively to this male mold or former, or whatever you choose to call it?

Ans. I only agree with you so far as moving with this concern, but not relatively to, because that in the Coté machine the counter when it has once taken its position upon the rotating former, if it is a former, is at that point brought to its ultimate shape, and it remains there; but in the Moffitt machine the counter is never brought to any ultimate shape, and never fits the former so as to maintain its position upon it except upon those points of the counter which are for the time being immediately between the rolls and the former where they are held by the bite of the former.

Cross-int. 39. When you speak of "the Moffitt machine" in your preceding answer you mean Exhibit A, don't you?

Ans. Yes; and I mean also the machine described in the Moffitt reissue.

Cross-int. 40. It seems to me you took rather a back-ended view of the third claim; don't you think that it is the flat end of the former

which gives the heel-seat a drawing or rubbing action against a proper part of the mechanism used for holding and shaping the blank over the former?

Ans. No. I have already said that there wasn't anything to hold the counter up to the flat end of the former in the Moffitt contrivance.

33 Cross-int. 41. What do you think is meant by the expression in the description of "the angle" which the flange makes with the body of the counter?

Ans. Will the counsel be kind enough to point out in the patent just what he means to refer to?

Cross-int. 42. The ninth line of page 2 of the specification.

Ans. I will read what the patent says, including this ninth line: "The rollers act on all parts coming between their peripheries, and in addition give a rubbing and drawing action upon the heel-seat or flange and around the angle or curve which it makes with the body of the counter." Now it will be seen that in this quotation the angle mentioned in the question means the same thing as the curve. The patent doesn't say the angle and curve, but it says the angle or curve, so that it is perfectly clear to my mind that this has no reference to the flat end of the former, but only to so much of it as curves around and against which the lower roll bears.

Cross-int. 43. You are not aware, are you, that in some styles of counters the flange makes an angle with the body of the counter and in others a curve, and in others an angle at some portions and a curve at others?

Ans. Yes.

Cross-int. 44. Do you believe that Exhibit D is properly shaped as it now is?

Ans. No; and the machine in which this Exhibit D was made cannot properly shape it, and in this respect it differs from the Moffit machine, if the Moffit machine can do what the patent says it can.

Recess 1 to 3.

Resumed at 3 p. m.

Cross-int. 45. Suppose the rolls C, C^1, C^2, had their shafts keyed tight in the bearings so that these rolls could not revolve; or, if you choose, suppose that segments of these rolls were substituted for them, would that make any substantial difference in the Moffit machine, in your opinion?

Ans. It wouldn't be the Moffit machine; that is all. The patent says or assumes that there is great benefit in the rolling operation, if I understand it, but there would not be any rolling action in the hypothetical machine described in the question.

34 Cross-int. 46. That depends a good deal upon the sense in which you use the word rolling, doesn't it; for example, shouldn't you say there was a rolling action when the cook with a rolling-pin rolls out dough upon a board?

Ans. Yes; I use it in the sense in which it is used in the patent. As to the inquiry about the rolling-pin, I believe I have seen my mother do that; and that is a rolling action substantially the same as Moffit proposes in his patent upon which this suit is brought. Suppose that instead of running the roller over the dough, as is supposed in the question, by the hands of the cook, the roller were hung in journals in such relation to the table that the table with the dough could be shoved under it, the roller remaining at rest but revolving upon its

journals, or suppose instead of shoving the table under it in the direction of the plane there was a large cylinder placed beneath the roller and on that the dough were put and the cylinder turned so as to carry the dough against the roller and then turn the roller upon its journals, there the dough would be rolled out.

Now all these modes of operation are substantially what Moffitt proposes in his patent; but suppose that the cook, instead of rolling the pin over the dough, holds the pin in his or her hands, not allowing the roller to turn, and shoves it over the dough, or suppose that in case of shoving the table under the roller the roller be fastened so that it cannot be turned, and so in case of the roller with a large cylinder below which I have mentioned, the roller be made fast so that it couldn't turn, then the last three mentioned hypothetical contrivances would operate upon the principle of your hypothetic heel-stiffener contrivance mentioned in the question; but I don't believe there would be much rolling of the dough for the purposes of pie-crust with the last three hypothetical contrivances.

I don't mean to say that leather will roll out just as dough will, at any rate not to the same extent, but dough will roll out in Moffitt's machine if it be placed upon the former and rolled against the rollers, but it will not do it very well, because the rollers are not in a straight line. The mode of operation is the same so far as the machine is concerned as the machine supposed by me in this answer, where the rolling-pin was hung upon journals and another larger cylinder working ing in connection with it; the rolling action of the former corresponding to the rolling action of the large cylinder, and the rolling action of the rolling-pin corresponding to the action of the outer rollers in the Moffitt contrivance.

Cross-int. 47. You will agree with me, I suppose, that in the defendants' machine Exhibit C the former and the mold or shell correspond in three lines in the direction of the axis of the former in substantially the same way that the former and the rollers C, C^1, and C^2 do in the Moffitt machine?

Ans. I don't know of any such three lines in the machine Exhibit C; if the counsel does I will thank him to point them out.

Cross-int. 48. You point out in your direct that the cross-section of the former in the Coté machine is a circle, while in the Moffitt machine it is not a circle; is it your opinion that a machine made with a former circular in cross-section and otherwise precisely as is described in the Moffitt reissue would be substantially different from the machine described in the Moffitt reissue?

Ans. I am not prepared to say that it would, but I am prepared to say that if the Moffitt machine were a practical machine for the purposes of shaping counters or heel-stiffeners, as the patent supposes, then another machine differing from it only in the fact that the former was concentric with its axis in all its parts, then such difference would not take the machine out from Moffitt's invention, so far as I know; whether it would take it out of the patent I don't undertake to say.

Cross-int. 49. Please read the letter from the Patent Office, dated Jan. 14, 1874, now shown you, and state whether you agree or not with the statement therein contained.

(A certified copy of this letter is now put in evidence by the complainant, and marked Exhibit Rejection, T. H. W., examiner, and this letter is a part of a certified copy of the file-wrapper and contents in the matter of letters patent granted Louis Coté, &c., &c., but the letter only is put in evidence by the complainant.

Counsel for defendants objects to the introduction of the letter as incompetent and as not being certified.)

Ans. I don't know whether I agree with it or not. This letter says "the novelty claimed in the application above cited is substantially anticipated by a patent granted to John R. Moffitt, of May
36 21, 1872, class 16, upper-machines; a patent is refused." This is all Greek to me. If anybody knows what it means standing by itself, it is somebody besides me.

(Complainant's counsel here puts in evidence the certified copy above referred to, and the same is marked Exhibit Coté File, T. H. W., examiner.)

Cross-int. 50. Please examine the Exhibit Coté File as far as you deem it necessary and answer the preceding question, assuming that the patent referred to is Exhibit E.

Ans. No, I am sure I do not. That opinion must have been written by an average Patent Office examiner, and hardly up to that.

Cross-int. 51. Is it your opinion that Exhibit C would be inoperative if the mold or shell were so mounted that it could be moved towards and from the former, and the former were oscillated instead of being rotated, the blank being inserted between the mold and the former, and the mold then forced up into the proper relation to the former, and the former then oscillated sufficiently to bring first one end and then the other end of the blank between itself and the mold, the former being motionless when the blank is inserted, and until the mold with the blank in it is brought into proper relation to the former?

Ans. I incline to that opinion, and I have already so stated in this deposition, I believe; but this is on the condition that no alteration is made other than as proposed in the question.

Cross-int. 52. What makes you so inclined?

Ans. I hardly know, but I guess it is my experience in similar matters. I don't see how a piece of leather-board like Exhibit B can be got into the shape of Exhibit D under the conditions mentioned in the question.

Cross-int. 53. Why not? Explain fully.

Ans. Because the machine isn't built right for that purpose, and I don't know as one can be built right for that purpose. I think you can't get the thing in there and get it into shape in that way; that is what is the matter.

Cross-int. 54. Can't you explain what the trouble is; that is, give the best reasons you have for your opinion?

Ans. I have got no other reason to give.

Cross-int. 55. Should you call the flanges on the five counters now shown you (which are put in evidence by the complainant and
37 marked Counters Nos. 1, 2, 3, 4, and 5, T. H. W., examiner) at an angle or a curve with the body of the counter, or both?

Ans. Both. At some parts of each I should say they stood at an angle with the body, and at some parts on a curve with the body or upright part.

Cross.int. 56. Now, assume that the distinguishing feature of novelty of the Moffitt machine is a male mold or former mounted upon a shaft and rotating or oscillating with that shaft and carrying with it the blank to be shaped over it, would not the machine Exhibit C embody this novelty substantially?

Ans. No. The former per se can't do anything at all about shaping, and it is only in connection with some other mechanism that it can do anything, and the former per se contains no novelty that I know

of, taken by itself; but whether it is new or not, it certainly is not useful taken by itself, because it can't be used taken by itself for the purpose of shaping a counter any more than a shoe-last can; so that the distinguishing feature of Moffitt's invention must include the mechanism working with the former, or some other mechanism which works substantially in the same way.

Now, whatever the former may be in the Coté machine when taken in connection with the mechanism working with it as represented in the machine Exhibit C, the combination is essentially and materially different from the combination of the former and rollers in Moffitt's machine, because the mode of operation is essentially different, so different that one does good and effectual work, while the other does little or nothing.

In the Coté machine the form is given to the material at, or a little beyond, where it enters the machine, for the most part by means of a change of the arrangement of particles in the material. There is a little something done by way of rubbing the surface afterwards, which is beneficial, but the main shaping is produced as the thing enters the machine, in my judgment, and there is no such change of the particles takes place in the Moffitt machine, either sooner or later, or at a corresponding time, as I understand it.

Cross-int. 57. Would not the Coté machine, in your opinion, embody Moffitt's invention, assuming that he was the first to make a counter-machine having a male mold or former upon a shaft, and
38 turning with the shaft, in combination with any means adapted to hold and shape the blank over the former?

Ans. No. I have already said that the Coté machine didn't infringe the Moffitt, and the Coté machine has got a means of shaping the blank to the former. If it had different means, working substantially different, then it wouldn't be the Coté machine.

Direct examination resumed:

Int. 58. Will you state whether you find Fig. 5 of the Moffitt reissue in the original patent?

Ans. I do not.

Int. 59. Will you refer to the specification in the Moffitt reissue and state what reference you find to Fig. 5, indicating to your mind, if it does indicate, for what purpose this figure was introduced in the reissue?

Ans. I have already quoted some three times in this deposition all that there is said in the body of the specification in regard to Fig. 5, and in that quotation it is mentioned in connection with Fig. 4. Now, Fig. 4 of the reissue is found in the original patent, showing an end view of the rolls and former in their relation to each other, but not showing other than by dotted lines anything to indicate the contour in the direction of their length of the rollers C^1 and C^2, and as I understand it this Fig. 5 was introduced into the reissue for the purpose of showing the contour in the direction of their length of the two rolls C^1 and C^2. I see no other reason for introducing it there.

Int. 60. Have you seen the machine Exhibit A operated with rolls different from those represented in Fig. 5, as to their contour; if so, will you state generally how they differed?

Ans. Yes; I have seen it operated with rolls in the position of C^1 and C^2, made to fit the former substantially as the roller C fits it.

Int. 61. Will you look at the rolls which I now produce as exhibits, to be marked F^1 and F^2, and state whether they are the rolls which you

saw used in Exhibit A in place of those now in the machine, corresponding in form to those represented in Fig. 5 of the drawings?

(Counsel for defendants here offer in evidence the rollers referred to, and the same are marked Exhibit F^1 and Exhibit F^2, T. H. W., examiner.)

Ans. Yes; I take them to be the same; they are like them.

39 Int. 62. Where the machine was provided with these rolls marked Exhibits F^1 and F^2 what was its practical operation as compared with the operation of the machine when provided with the rolls now in it like those represented in Fig. 5?

Ans. There was no essential difference as far as I could discover. In both cases the tendency of the work was to suck up between the outside rollers, and in neither instance was the stiffener brought to any practical form for the purpose of being built into a shoe without the necessity of lasting them.

Int. 63. Did you observe any difference in the mode of operation of the machine in the two forms with respect to forming either the body or upright part of the counter or the heel-seat?

Ans. No.

Int. 64. Would the judgments or opinions which you have expressed during the course of your examination in respect to the resemblances or differences of the machine described in the Moffitt reissue and the Coté machine represented by Exhibit C have been changed in any way if the Moffitt machine were provided with rollers like Exhibits F^1 and F^2, instead of those represented in Fig. 5?

Ans. No.

Int. 65. Will you look at the certified duplicate from the records of the Patent Office of the model in the matter of letters patent granted to John R. Moffitt, dated May 21, 1874, numbered 127090, reissued December 8, 1874, numbered 6162, for a manufacture of heel-stiffeners for boots and shoes, and state how the machine Exhibit A, when provided with the rolls F^1 and F^2, would correspond with the model.

(The model referred to is here offered in evidence by counsel for defendants, and the same is marked Exhibit G, T. H. W., examiner.)

Ans. It would be substantially the same as the model, I believe.

Int. 66. How do you find it in respect to the shape of the former, especially at the end at which the heel-seat must be formed if it is formed at all?

Ans. The machine Exhibit A is nearer like the model than it is like the drawings of the patent as to the shape of the former at and about the heel-seat, but there is not much difference; there isn't any practical difference that I can discover.

40 Int. 67. Do you find in the model or in the machine as represented in the drawings any adequate provision for forming heel-seats like those shown in the counters marked Counters Nos. 1, 2, 3, 4, and 5, T. H. W., examiner, or for carrying out the process referred to in the third claim of Moffitt's reissue, in forming such heel-seats as are shown in the exhibits?

Ans. No.

Int. 68. You have referred to the fact that the forming action of the Coté machine took place mainly at or near where the blank enters the machine; will you introduce into the machine Exhibit C a blank, so as to form about half its length and uniformed as to the remainder of its length, to show, if it will show, the effect of the machine at the point where the blank enters?

Ans. I have here a specimen which the question calls for, made according to the terms of the question.

(Counsel for defendants here offers the specimen produced, and the same is marked Exhibit H, T. H. W., examiner.)

Cross-examination resumed:

Cross-int. 69. You had seen and examined Exhibit G before you had Exhibit A made, hadn't you?

Ans. Yes; I told you I had a little while ago.

HERVEY WATERS.

BOSTON, *May* 2, 1877.

Subscribed and sworn to before me.

THOS. H. WAKEFIELD,
Special Examiner.

41 *Deposition of Rufus H. Hurlbut.*

BOSTON, *May* 5, 1877.

Direct examination by CHAUNCEY SMITH, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. Rufus H. Hurlbut; age, 35; reside at Sudbury, Mass. I have the care of the machinery in the South Sudbury Manufacturing Co.'s factory.

Int. 2. How long have you been in that employment?

Ans. About three years.

Int. 3. Will you look at Exhibit C and state whether machines like that are among those you have the care of?

Ans. Yes.

Int. 4. Do you see them in daily use?

Ans. Yes.

Int. 5. By whom are they operated?

Ans. By girls principally.

Int. 6. If you have samples with you of the articles made on the machine, will you produce them as exhibits? I mean specimens of the ordinary work produced on these machines.

Ans. I do, and these are specimens.

(Witness produces specimens, and the same are offered in evidence and marked Exhibit I (3 pieces), T. H. W., examiner.)

Int. 7. Will you state how many pieces like these exhibits one girl will make on these machines in a day, upon an average and as an extreme day's work?

Ans. Upon average about six thousand pieces in a day of ten hours. A capable girl in an extreme day's work from 8,000 to 9,000 in ten hours.

Int. 8. Are these pieces which you have produced, and pieces as they are generally made, passed through each of the two parts of the machine as shown in Exhibit C?

Ans. Yes.

42 Int. 9. Are they passed through in the same or in opposite directions?

Ans. Opposite.

Int. 10. Are they invariably passed through each part of the machine, or are they sometimes sold and used after a passage through one part of the machine?

Ans. Sometimes after a passage through one.

Int. 11. What proportions of these which are made by the company in whose employ you are are made of leather-board, and what proporportion, if any, of leather?

Ans. Nearly all of leather-board.

Int. 12. Are you able to state the quantity per day turned out by your company?

Ans. I don't know that I am, as an average. It varies from six to twenty-five thousand pairs. On an average from twelve to twenty thousand pairs per day.

Int. 13. After the counters are produced in the form shown in Exhibits I are they subjected to the action of another machine before they are sold; if so, for what purpose?

Ans. Yes; for the purpose of making them conform more nearly to the last.

Int. 14. Will you produce specimens of counters made on machines like Exhibit C, after they have been subjected to the action of another machine to change their form, as stated in your last answer?

Ans. I do.

(Witness produces specimens, which are offered in evidence, and the same are marked Exhibits J (3 pieces), T. H. W., examiner.)

No cross-examination desired.

RUFUS H. HURLBUT.

BOSTON, *May* 5, 1877.

Subscribed and sworn to before me,

THOS. H. WAKEFIELD,
Special Examiner.

43 *Exhibit Coté File.—T. H. W., examiner.*

DEPARTMENT OF THE INTERIOR,
United States Patent Office.

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy from the files of this office of the file-wrapper and contents in the matter of letters patent granted Louis Coté, dated February 24th, 1874, No. 147906, for improvement in machines for forming boot and shoe stiffeners.

In testimony whereof I, W. H. Doolittle, Acting Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this thirteenth day of April, in the year of our Lord one thousand eight hundred and seventy-seven, and of the Independence of the United States the one hundred and first.

W. H. DOOLITTLE,
Acting Commissioner.

$15 H. 1 D. Model.

To the Commissioner of Patents:

Your petitioner, a resident of Saint Hyacinthe, in the Province of Quebec, in the Dominion of Canada, prays that letters patent may be granted to him for the invention set forth in the annexed specification; and he hereby appoints Nicholas Aubin and Calvin M. Parks, of the city of Washington, District of Columbia, his attorneys, with full power of substitution and revocation, to prosecute this application, to alter and amend the same, to receive the patent, and to transact all business in the Patent Office connected therewith.

St. Hyacinthe, this third day of January, 1874.

LOUIS COTÉ.

Specification describing a machine for forming boot and shoe stiffeners, invented by Louis Coté, of the city of Saint Hyacinthe, in the Province of Quebec, in the Dominion of Canada.

The nature of my invention consists in placing upon a rotating shaft or mandrel of a spheric, spheroidal, or sphero-cylindrical shape, and below it a matrix of a corresponding form, but stationary, so that by the revolution of the mandrel any band of leather, composition, or other stuff introduced between them is drawn in and carried through the concavity of the matrix, and by being strongly pressed during its passage through the machine it receives a curved form both in its length and breadth, and is thereby adapted to be used as stiffening for boots or shoes. It also consists in placing under the matrix block an elastic cushion or springs, so that the pressure exerted between the mandrel and matrix may adapt itself to the different thickness or inequalities of the stuff submitted to their combined action.

Several devices have been contrived to form stiffeners, but they operate slowly and are very troublesome. The machine of my invention effectually removes all objections, operates faster, more regularly, and does not tend to disintegrate or twist the goods by uneven or too hard pressure.

Fig. 1 is an elevation of the machine.

Fig. 2 is a cross-section of the essential parts through H, and shows the shaft, mandrel, matrix, cushion, and bearing-plate.

Fig. 3 is a view of the mandrel.

A is a frame bearing the working parts; a^1, cross-plate upon which rests the cushion bearing the matrix; a^2, screws to adjust the pressure by raising or lowering the cushion bearing the matrix-block.

B, a rotating shaft bearing the mandrel. It receives its motion from the drum b^1, or from a crank or from a combination of geared wheels. b^2, mandrel. It is a spherical, a spheroidal, or sphero-cylindrical piece of metal or other hard substance, of a size and shape adapted to the kind of work required. Its surface may be roughened or may have grooves cut into it, as seen at b^3 (Fig. 3), so as to prevent its slipping upon the stuff exposed to its action.

C is a matrix. It is a block of metal with a concave recess corresponding to the size and shape of the mandrel, but with a smooth surface. At the point c^1 (Fig. 2) it is enlarged so as to allow space to introduce the stuff between the mandrel and matrix without separating them. If it be found desirable to expose the stuff to be formed to a more continued action of the mandrel, the matrix may be continued so as to cover a larger surface of the mandrel.

D is a cushion of India rubber, or of any other elastic substance, upon which the matrix rests, so as to enable it to adjust itself to the inequalities in the thickness of the stuff passed through the machine.

The action of this machine is simple and its operation may be easily understood by any one acquainted with the art, upon inspecting the drawings. Several modifications of my device might be indicated, but I consider the plan described as the simplest and most effectual.

What I claim as my invention and desire to secure by letters patent is—

A rotating mandrel, b^2, in combination with the stationary (see amendment Jan. 16, 1874) matrix C and the cushion D, the whole constructed and operating substantially as and for the purpose hereinbefore set forth.

Signed and witnessed at Saint Hyacinthe, this third day of January, A. D. 1874.

LOUIS COTÉ, *Inventor.*

Witnesses:
CO. L. COTÉ,
JAS. A. LA FERNIÈRE.

DOMINION OF CANADA,
County of St. Hyacinthe,
City of St. Hyacinthe, ss:

Louis Coté, the above-named petitioner, being duly sworn, deposes and says that he verily believes himself to be the original and first inventor of the improvement in machines for forming boot and shoe stiffeners described and claimed in the foregoing specifications; that he does not know and does not believe that the same was ever before known and used; and that he is a subject of the Queen of Great Britain.

LOUIS COTÉ.

Sworn to and subscribed before me this third day of January, 1874.
[SEAL.] H. ST. GERMAIN, *J. P.*,
Notary Public.

46 *Exhibit Rejection.—T. H. W., examiner.*

No. 1.] Examiner's Room, No. 95.

U. S. PATENT OFFICE,
Washington, D. C., Jan. 14, 1874.

Machine for forming stiffeners for boots and shoes. Filed Jan. 8, 1874.

LOUIS COTÉ, care Aubin & Parks, present:

The novelty claimed in the application above cited is substantially anticipated by patent to John R. Moffitt of May 21, 1872, class 16, upper-machines.

A patent is refused.

J. P. CHAPMAN,
Ass't Ex'r.

J. G. PARKINSON, *Ex'r.*

WASHINGTON, D. C., *Jan.* 16, 1874.

To the Commissioner of Patents:

SIR: I hereby amend my application for a patent for machine for forming boot and shoe stiffeners, filed on or about Jan. 8, 1874, by inserting in the claim, before the word "matrix," the word stationary.

LOUIS COTÉ,
By C. M. PARKS,
Attorney.

Memorandum of fee paid at U. S. Patent Office.

$20 H. Inventor, Louis Coté. Invention, mach. for forming boot & shoe stiffeners. Date of payment, Feb. 21, 1874.

47 PATENT OFFICE, *Feb.* 21, 1874.

Fee, $20. Solicitor, C. M. Parks.

U. S. PATENT OFFICE.

Application of Louis Coté, filed Jan. 8, 1874.

Contents of this file.

1. Application.
2. Rej., Jan. 14, 1874.
3. Amendment, Jan. 16, 1874.
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16.
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18.

48 (16) PARKINSON, $\frac{543}{20}$

1874.

No. 147906.
Louis Coté, of Saint Hyacinthe, Province of Quebec, Canada.

Machine for forming boot and shoe stiffeners.

Rec'd, Jan. 8, 1874.
Petition, " " "
Affidavit, " " "
Specification, " " "
Drawing, " " "
Model, " " "
Cert. dep. " " "
1. Cash $15, Jan. 8, 1874.
Add'l fee cert.
1. " " cash $20, Feb. 21, 1874.
Examined Jan. 17, 1874. J. G. Parkinson.
2. Issue Jan. 17, '74. Knight.
4. Patented Feb. 24, 1874.

Recorded vol. , page .
Circular, Jan. 19, 1874.
Application for reissue filed May 16, 1874.
Reissued, June 2, 1874. No. 5896.

NICHOLAS AUBIN, &
CALVIN M. PARKS,
Present.

1874.

Ex'd, H. H. Rejected Jan. 14, 1873.

16.

Improvement in machines for forming boot & shoe stiffeners.

49 EVIDENCE FOR COMPLAINANT IN REPLY.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

CHARLES F. SLEEPER,
Special Examiner.

Present, James E. Maynadier, esq., of counsel for complainant; Thomas L. Wakefield, esq., of counsel for defendants.

Deposition of John R. Moffitt.

BOSTON, *July* 11, 1877.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, and are you the complainant in this case?

Ans. John R. Moffitt; I am.

Int. 2. When were you first concerned in the manufacture of counters or heel-stiffeners, or machines for manufacturing them?

Ans. In 1866.

Int. 3. What kind of counters were those?

Ans. Rubber.

Int. 4. How were they manufactured, briefly?

Ans. By moulds; a plunger and female mould.

Int. 5. What was the next invention you made relating to counters?

Ans. The machine marked Exhibit Machine No. 3 in this case.

Int. 6. When was that machine made?

Ans. In the year 1867; the summer part.

Int. 7. How much was that machine used then, and for what purposes?

50 Ans. For making heel-casings and zinc counters, and from one to three hundred pairs of casings, and counters perhaps not so many.

Int. 8. Please produce a sample of the heel-casing and zinc counter made at that time, and explain how they were designed to be used.

(Objected to as incompetent and immaterial, and not in reply to the evidence produced by the defendants.)

Ans. The zinc counter was designed to be put inside, and between the leather of the boot and the counter, that the sewing or nailing of

the boot would be around the inner edge of the flange of the zinc counter. The casing for the heel was to be put on so that the upper flange of the casing would be even with the lower edge or above the flange of the zinc counter when in its place. The casing was fastened to the heel by nails passing through the inner flange of the casing and going through the inner sole, there clinching; then the rubber tread-piece was put into the casing, making the whole complete. (Witness produces three things marked Exhibits Moffitt No. 1, No. 2, and No. 3, C. F. S., sp'l ex'r.)

Int. 9. When were Exhibits Moffitt No. 1, No. 2, and the metal part of No. 3 made; and on what machine?

(Same objection.)

Ans. They were made in 1867. They were made on machine Exhibit Machine No. 3.

Int. 10. What other machine was used in shaping Exhibits Moffitt No. 2 and the metal part of No. 3, and where it is now?

(Same objection.)

Ans. It is here; this is it. (Now put in evidence and marked Exhibit Machine No. 7, C. F. S., sp'l ex'r.)

Int. 11. Describe the work which was done upon these two machines (Exhibits Machine No. 3 and No. 7).

(Same objection.)

Ans. A blank piece was cut the desired shape for a casing or counter. The portion intended for the inner flange of the casing was turned over, so that it would give the inner flange the desired form. It was then passed through the machine Exhibit 3, around the former and between a roller driven with the former by gears, and between the support supporting the blank to the former, thereby giving it the desired shape.

51 The counter, after being cut the desired shape, was passed through between the former and roller in the same machine, and while passing through was held to the former by the support at the same time.

After being passed through Exhibit Machine No. 3 it was made circular. I then put it into Exhibit Machine No. 7, and it was there pressed to the desired shape.

Int. 13. Is Exhibit Machine No. 7 a complete machine? If not, what is lacking in it?

(Same objection.)

Ans. In 1867 it was a complete machine for making casings, but it is not now, as some portions of it I have lost. One end is only partially completed for shaping the counters to be adapted with the casing.

Int. 14. Which of the two rolls was the revolving former for shaping the counter, and which for shaping the heel-casing, in Exhibit Machine No. 3?

(Same objection.)

Ans. The convex roll was the former for the counter, and the concave roll was the former for the casing.

Noon recess.

BOSTON, *July* 12, 1877.

Int. 15. What change, if any, has been made in that machine (Exhibit Machine No. 3) since it was first built, and how does it differ now, if at all, from what it was in 1867?

Ans. No change, except that the rollers, or formers, were taken out

by another party, without my consent, and I had those two put in, just like what was originally in there, and the machine is now just like what it was in '67 when I made counters and casings upon it.

Int. 16. What was your business during '67, and from that time up to the beginning of '72?

Ans. About June, '67, I commenced the building of this machine (Exhibit Machine No. 3) and worked with it till towards the fall of that year. I then commenced developing the manufacture of rubber counters. During that year, '68, '69, '70, and '71 and '72, I was engaged in the manufacture of rubber counters.

52 Int. 17. Look at the patent No. 76794, dated April 14, 1868, for improved heel-casing (the original patent is now put in evidence), and state on what machine the model filed in the Patent Office when you made application for that patent was made.

Ans. It was made on Exhibit Machine No. 3.

Int. 18. Why didn't you at that time patent Exhibit Machine No. 3, and the new process for making counters for which it is adapted?

Ans. Because I didn't feel the importance of my new process or device, and feeling the product covered, my patent would secure to me the right to the invention; and when I went further into its development I would probably take out other patents on the devices in the elements of its manufacture.

Int. 19. What kind of counters were in the market during the time from '66 up to the end of the year '71?

Ans. I knew of no shaped counters in the market until the rubber counters were introduced. There were none but what was known as flat counters, except the rubber counters.

Int. 20. When did you first know of shaped leather-board counters being in the market?

Ans. I can't say just what year; I think it was '71, or afterwards, when I first heard of leather-board counters being shaped for use in the market.

Int. 21. Where were these two machines, Exhibits Machine No. 3 and No. 7, built? And produce, if you have them, bills for them.

Ans. They were built at Bisbee & Endicott's, in Chelsea, and I here produce a copy of their account. (Now put in evidence and marked Exhibit Moffitt No. 4, C. F. S., sp'l ex'r.)

(The copy of account and all the evidence relating thereto objected to as immaterial and incompetent.)

Int. 22. There seems to be a balance unpaid in Bisbee & Endicott's account. Do you recollect why this was?

(Same objection.)

Ans. When this account was made other parties were to furnish means to pay the bills. Bisbee & Endicott, not knowing anything about those parties, charged all bills to me; and their failing to furnish means to pay the balance of the bill, Bisbee & Endicott con-

53 cluded that as I couldn't get the means from them to pay the balance they would not collect it of me.

Int. 23. What led you to make application for your '72 patent, No. 127090, dated May 21st, '72?

Ans. To cover the new process of shaping counters, and with a view to shape them at one operation.

Int. 24. My question was intended to be, what then brought to your mind the importance or need of applying for and obtaining a patent on this process?

(Objected to as immaterial and incompetent, and not in reply to any evidence of the defendants.)

Ans. I at that time having been at great expense in developing a rubber counter, and seeing that leather and leather-board counters were going to be used largely, I therefore wished to protect myself in my new process for shaping counters, that I might be also protected in the interest of the rubber counter.

Int. 25. When did you first commence the development of the business of manufacturing leather or leather-board counters with a turning or revolving former?

Ans. About June, 1873.

Int. 26. What, if anything, occurred which prevented you going to work at this in '72?

Ans. In September, 1872, the rubber factory of Spinney & Co., for making counters, was burnt, and my undivided time had to be given in its rearrangement, that I could not take hold of this till about June, '73.

Int. 27. What was the first machine with a revolving former which you built in '73; and describe it briefly, stating its size, and what it cost, in general terms, and about how long you were engaged in building it?

Ans. The first machine was a large machine, and cost me about $1,500. I was engaged in building it from four to six months, and it was constructed much like what is seen in Fig. 3 of the drawing in my patent reissue No. 6162; that is, with a double former. It was constructed with a view to forming two counters at one time, having a support or roller shaping each counter, or a counter at each end of the former shaped by the motion of the former.

54 Int. 28. What material was this machine especially designed for; and what was the quality of the articles produced upon it?

Ans. The material was taken directly from the pulp. I experimented with it two ways and made good counters by first forming from pulp in strainer mould, giving about the desired shape for the counter which I patented July 21, 1874, and I also made counters from uncalendered leather-board on this machine, my objects being to save the waste in the cutting of leather-board and rolling it; but I found this process too expensive and abandoned it.

Int. 29. What was the next machine which you built for forming leather and leather-board counters? Describe it briefly; state when it was, and about what you expended in time and money.

(The last clause, relating to expense, objected to as incompetent and immaterial.)

Ans. I next built two machines, in which I formed the counter by means of a female mould, with a revolving former passing over its inner surface setting it to shape. On these two machines I spent from two to three thousand dollars. I commenced about the beginning of '74, and spent about six months on them. One of them was put into the factory and run.

Int. 30. What was the quality of the work produced on these machines, and state whether the revolving former was circular or heel-shaped in cross-section?

Ans. The counters made on these machines were good counters. The revolving formers were circular.

Int. 31. Why didn't you adopt this form of machine and put it on the market?

(Objected to as immaterial and incompetent, and not in reply to the evidence of defendants.)

Ans. For reasons, I could not make counters cheap enough. In other words, it wouldn't make them with sufficient rapidity.

Int. 32. Where were these two machines, Exhibits Machine Nos. 5 and 6, made, and for whom; and to what extent have machines of this particular pattern been used?

Ans. They were made by me in 1874 at Bisbee & Endicott's, Chelsea, for Mr. E. H. Sampson, and there were many hundreds of thousands of pairs made on those machines during 1874 and '75.

Noon recess.

55 Int. 33. What practical objection, if any, did you find to this form of machines, Exhibits Machine Nos. 5 and 6, and what did you do about it?

Ans. The principal objection I found they were too light. I made a new machine much stronger and with some additional devices, and patented it June 20, 1876, No. 178869. This patent contains a full description of it. (A copy of that patent is now put in evidence and marked Exhibit Moffitt No. 5, C. F. S., sp'l ex'r.)

Int. 34. What is the capacity of the machine described in the patent Exhibit Moffitt No. 5?

Ans. The first operation in forming, from seven to ten thousand pairs per day of ten hours, and the second part, from twenty-five to thirty pieces per minute, that being the way the machine is commonly speeded; about six thousand pairs is considered a good day's work.

Int. 35. How many machines such as described in Exhibit Moffitt No. 5 are now running; and how are you compensated for the use of them?

Ans. Run about eighteen set up for use, and the parties using them are licensed by me, paying a royalty on the product.

Int. 36. State, generally, what expense you have been at in introducing your revolving former; I mean both in time and money; and produce all copies of bills which you rely upon to refresh your recollection.

(Objected to as immaterial and incompetent, and not in reply to the evidence of defendants.)

Ans. I have paid one firm over $18,000.00, Bisbee, Endicott & Co. I now produce a bill of theirs, showing the monthly amounts (the bill is now put in evidence and marked Exhibit Moffitt No. 6, C. F. S., sp'l ex'r.), and from $3,000.00 to $5,000.00 to other parties. About four years of my time.

Int. 37. What do you believe to be the main difference between your invention described in the reissue patent now in suit and any other mode of making counters known to you?

Ans. The process of moulding counters in any way that I have any knowledge of has been by a male and female mould, the parts coming together and pressing the counter-blank to shape; has in all
56 cases been what I would term a dead pressure. In any new process in the art of forming counters the blank is put to shape by means of a motion passing over the blank, forming it line by line; or, in other words, I would say a live motion instead of a dead one, in shaping the counter over the former.

Int. 38. Mr. Waters thinks that the machines described in your reissue patent are not operative. What is the fact as to this?

Ans. The facts are that machines are produced here as exhibits representing different forms of their structure by the specifications and drawings; that good counters have been made on each of them to my knowledge.

Int. 39. Have you ever used the machines Exhibits Machine Nos. 1 and 2, 3, and 4? If so, state whether they operate successfully and practically or not.

Ans. I have used them, and they do operate successfully and practically.

Int. 40. Have you seen any one else make fair merchantable counters upon them? If so, name all you now recollect.

Ans. Yes. I have seen Mr. A. H. Spencer, H. Hughes, Mr. Robert Mason, Mr. James E. Maynadier, and others.

Int. 41. State your opinion as to the substantial identity or difference between the machine described in your reissue in suit and that described in the Coté reissues and shown substantially in Exhibit C.

Ans. In my opinion they are substantially, in the state of the art, the same in the process of forming blanks into shaped counters.

Int. 42. Please give your reasons for the above opinion.

Ans. In my new process (patent of 1872) my first claim is "in a machine for making counters or stiffeners for boots and shoes a turning or revolving former in combination with mechanism for holding and shaping the blank over it." Now, in the Coté machine he uses substantially the same thing; that is, a turning or revolving former, with mechanism shaping the blank over the former while the former is rolling or turning on its axis.

Int. 43. What difficulty, if any, would any ordinary mechanic skilled in this art experience in devising somewhat different mechanism for holding and shaping the blank over the former from that de-
57 scribed in your reissue now in suit, and describe briefly what different mechanisms for this purpose you have devised?

Ans. I well know that in this new process of shaping counters by means of a moving former, or a moving mechanism over the surface of the counter-blank, to be shaped by an active or live motion in the bearing surface of mechanism, there are many different ways of accomplishing the result of shaping a counter. In Exhibits Machine 1 and 2 it is immaterial whether the support or roll has a motion imparted to it while the counter-blank is passing between it and around ths former or not. Counters are produced here made in both ways; and that counters could be made in the same machine by having the supports or rolls pass around the former, thereby forming the counter line by line.

I here present drawings (Exhibit Spencer No. 6) wherein the counter-blank may be shaped over the former, as represented in the drawings.

Int. 44. In your answer to Int. 37 you state the difference between your invention and the moulding process. What is the main difference between the Coté machine, so called, and the moulding process?

Ans. In the Coté machine, if you were to press the former into his supports, or female mould, without giving any motion to the former, you would then have about what is known in the art as a moulded counter; but his former being permanently in the support, or female mould, and there rolling upon its axis, and the counter-blank placed centrally upon it, and passing by the motion of the former upon its axis between mechanisms shaping it line by line over its surface to the rolling former.

Int. 45. You drew a distinction between live and dead pressure, as you termed it. By which of these pressures is the counter shaped in the Coté machine, so called?

Ans. It is shaped by a live or active moving pressure over the surface of the counter by its mechanism.

Int. 46. What would be the practical effect upon the value of your reissue patent now in suit if it should turn out that a man who used a revolving former in combination with exterior shaping mechanism other than a roll or rolls did not infringe your patent?

58 (Objected to as immaterial and incompetent, and not in reply to any evidence offered by defendants.)

Ans. I should feel that I had lost a large amount of money that I had expended, and time, which is years, in developing this new process.

Int. 47. What are the advantages of the double process described in your patent Exhibit Moffitt No. 3; and why is it not better to shape the counter at one operation by means of the heel-shaped revolving former; and why is it not still better to form the counter from pulp or uncalendered leather-board?

(Same objection.)

Ans. The advantages in making counters under my '76 patent by the double process are that they make a better counter and cheaper in labor. In my experiments with the heel-formed former I found I could not make them so good, nor so fast, nor so cheap; and that in my experiments in making counters direct from pulp I had thought to save the waste usual in cutting up leather-board for counters, and also the calendering or rolling of the board after it had been formed from the pulp into sheets, but I found the process of making them in this way not a success, for reasons of its being too slow.

Int. 48. Do you know anything about the counters now shown you marked Exhibits Hughes Nos. 1 to 6; that is, did you see them made?

Ans. All I know about them is that I gave orders to Mr. Hughes to make a certain number of counters as is represented here in exhibits, but I did not see him make them, nor was I in the shop the day they were made.

Int. 49. What does the workman do in making counters on Exhibit Machine No. 1 and 2? Explain first when the round former is used, and second when the heel-shaped former is used.

(Objected to as incompetent and immaterial, and not in reply to defendants' evidence.)

Ans. He places the end of the counter centrally on the former, and holds the blank to the former while it's being moved by the former and rolled against the support or roll, and while passing from the support or mechanism he partially holds it against the former. It is the same in both.

59 BOSTON, *July* 14, 1875.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 50. What is your occupation, and what has it been for the last six years?

Ans. In the manufacture of counters, and developing the process of the manufacture.

Cross-int. 51. Where has your manufactory been?

Ans. Chelsea, Mass.

Cross-int. 52. When did you first see or know of the Coté machine for manufacturing counters?

Ans. In 1874; the summer part.

Cross-int. 53. When did you first make any metallic counters on Exhibit Machine No. 3?

Ans. In 1867?

Cross-int. 54. How many metallic counters did you ever make on that machine? State as nearly as you can.

Ans. I can't say how many. It was probably less than a hundred, but it might have been more.

Cross-int. 55. Can you testify positively that you made as many as fifty?

Ans. I think I can.

Cross-int. 56. Are you absolutely certain that you made as many as fifty?

Ans. Not having counted what I was doing at any time, I cannot say positively.

Cross-int. 57. When did you first make any leather or leather-board counters on Exhibit Machine No. 3?

Ans. Some time in June of this year.

Cross-int. 58. Did you ever construct, or have constructed for you, any other machine like Exhibit Machine No. 3?

Ans. I have, substantially like it.

Cross-int. 59. How many?

Ans. From 15 to 18.

Cross-int. 60. Where are they; or what did you do with them?

60 Ans. They are used by Mr. Sampson, Mr. Andrews, and Mr. Cavanagh, under license from me.

Cross-int. 61. For the manufacture of what kind of counters are they used?

Ans. Principally leather-board.

Cross-int. 62. When and where were they used by Mr. Andrews, and what Mr. Andrews?

Ans. Mr. Emery Andrews, at Welchville, Maine; and I think from the early part of '75 to the present time. His license dated November 17, '74, I think.

Cross-int. 63. Did you ever construct, or have constructed for you, any other machine like Exhibit Machine No. 3, for making metallic counters?

(Objected to, because too ambiguous; the fact being, as complainant's counsel understands it, that all the machines just spoken of by the witness will make counters of any suitable material, whether metal, or leather, or leather-board.)

Ans. I have had no machines constructed especially for making metal counters; nevertheless metal counters can be made on all the machines above referred to.

Cross-int. 64. Have you ever made metal counters upon any of your machines except Exhibit Machine No. 3?

Ans. I have not.

Cross-int. 65. After making Exhibit Machine No. 3, when did you first construct a machine for making counters of leather or leather-board, otherwise than from pulp?

Ans. In 1873.

Cross-int. 66. Is the machine referred to in your last answer represented by either of the exhibits produced in this examination; and if so, which one?

Ans. It is not.

Cross-int. 67. Was it either of the machines described in your direct examination; and, if so, will you please describe it again?

Ans. It was the first machine described in my direct examination, with the former like Fig. 3 of my reissue drawings, for making two counters at the same time, the former having a continuous or oscillating

motion propelling the counter-blank against mechanism shaping
61 it to the former. I mean the machine which I used for making pulp and uncalendered leather-board counters. I also made leather-counters on it.

Cross-int. 68. What was the mechanism for shaping the counter to the former, mentioned in your last answer?

Ans. It was a circular support, with a stationary support.

Cross-int. 69. To what extent did you use that machine?

Ans. It was sufficient to know that I could not make them with sufficient rapidity; or, in other words, cheap enough.

Cross-int. 70. What was the next form of machine constructed by you for making counters after the one last described, and when it was constructed and used?

Ans. The next form of machine was with a female mould having a circular former shaping the counter to the mould by pressure on its inner surface, which pressure was a moving or active pressure, forming it line by line to the female mould. I commenced that machine about the first of 1874; made two of them; one of them was put into Mr. Sampson's factory and run for a time.

Cross-int. 71. Is that machine represented by either of the exhibits produced in this case; and, if so, which?

Ans. It is not.

Cross-int. 72. What was the next form of machine constructed by you for the manufacture of counters; when was it constructed; and whether or not it is represented by either of the exhibits produced in this case?

Ans. The next form was substantially my 1872 patent, Figure 4, except that I put supports between the auxiliary rolls and made my former a true circle, and forming the heel-seat to make the counter complete at one operation. In the summer of '74 I commenced it. It is not represented by either of the exhibits.

Cross-int. 73. When did you complete this machine, and to what extent did you use it?

Ans. In the latter part of '74, and to the extent to satisfy me that my original ideas of '67 to form a counter by two operations was the true way, to the extent in experiments, making probably fifty counters or more.

62 Cross-int. 74. What was the next machine for making counters constructed by you after the one last described; when was it constructed and completed for use; and whether or not it is represented by either of the exhibits produced?

Ans. After the experiments just referred to I made up my mind the true way was my original idea, and made machines Exhibits Machines 5 and 6, forming a counter by two operations; and I commenced the machines the latter part of '74 or the fore part of '75, and they were completed some time in the early part of '75.

Noon recess.

Cross-int. 75. State as nearly as you can the whole number of counters made by you upon all the machines you have described previous to the machines mentioned in your last answer, Exhibits 5 and 6.

Ans. It would be very difficult for me to say; but there were several hundreds in all.

Cross-int. 76. State about how much of your time, between 1867 and 1873, was employed almost exclusively in the rubber counter manufact-

ure; when did you begin and when did you cease that particular department of manufacture?

Ans. The bill here put in evidence, and my account in 1867 (Exhibits Moffitt Nos. 4 and 6), shows that I left off the 31st of August, 1867, the work on the machines Exhibit Machine 3 and 7; I commenced soon after developing the rubber counter enterprise, and commenced again with my new process for making counters in July, 1873. My undivided time was given to the rubber counter enterprise between those dates.

Cross-int. 77. Were rubber counters manufactured by you or under your direction, during the time mentioned in your last answer, made upon machines like either of the exhibits produced in evidence.

Ans. They were not; they were made on the only known process of making counters by means of moulds, consisting of a male and female mould, shaping the counter by a dead pressure.

63 Cross-int. 78. Does the bill marked Exhibit Moffitt No. 6 show machinery made for manufacturing rubber counters or leather-board and leather counters?

Ans. None whatever for rubber, but is for labor and material in the progress of developing and perfecting my new process, patented 1872.

Cross-int. 79. Wholly?

Ans. Wholly.

Cross-int. 80. Whether the items upon the bill marked Exhibit Moffitt No. 4 are for machinery to manufacture rubber counters or leather-board?

Ans. None whatever for rubber. It is for the labor and materials for machines Exhibits Machine Nos. 3 and 7, and other parts belonging to them, in 1867.

Cross-int. 81. Did you ever construct a machine of the form and like Exhibit Machine No. 4 previous to the construction of said exhibit?

Ans. Not the exact form, but substantially like it.

Cross-int. 82. When, and wherein did it differ from Exhibit Machine No. 4?

Ans. In '73 and '74. In '73 the machine spoken of and described substantially like it, except that it was a double-end former and formed two counters at the same motion; and the other was the machine spoken of in '74, with a circular former, having three circular supports, and with guides between them, forming the heel-seat at the second time and designed to make the counter at one operation.

Cross-int. 83. Are those machines named in your last answer ones that you have previously described as ones that did not prove successful and profitable for your use as you have mentioned?

Ans. The first machine just spoken of I described in my direct, and have spoken of it since in the cross. The second machine I had forgotten about until the cross-examination. These are among different contrivances I have spent time and money on, and were concluded not to be satisfactory.

Cross-int. 84. Did you ever manufacture any counters upon Exhibit Machine No. 4?

64 Ans. I have made counters on it, but not what might be called manufactured them for the market.

Cross-int. 85. How many did you ever make on said machine, and when?

Ans. I don't recollect how many I made. I made them within a

month after the machine was completed and before it was brought here as an exhibit, and some since it was brought here.

Cross-int. 86. What mechanic made said Exhibit Machine No. 4?

Ans. Mr. Robert Mason and others; I don't recollect their names.

Cross-int. 87. Was it made under your direction?

Ans. It was.

Adjourned.

BOSTON, *Aug.* 16, 1877.

Cross-int. 88. When was the Exhibit Machine No. 4 made?

Ans. In the month of June last it was completed, I commenced to make it nearly a year ago, but got no farther than to get the castings out. About the first of June I commenced to complete it.

Direct resumed:

Int. 89. Please refer to your 68th cross-int. and describe more fully the stationary supports there mentioned.

Ans. Those two exhibits (now produced and marked Exhibits Moffitt No. 7 and 8, C. F. S., sp'l ex'r) were used one at each end, with a stationary support of about the same width in its concave surface coming next to the former, as what is represented in Machine No. 3.

Int. 90. Please produce such patterns and other parts of this machine as you have here and describe briefly how the machine was organized.

Ans. I here produce three patterns, three pieces of machinery, and two disks (which are now put in evidence and marked Exhibits Moffitt Nos. 8, 9, 10, 11, 12, 13, 14, 15, C. F. S., sp'l ex'r).

The large pattern (No. 8) was for the bed-piece of the machine. The angular pattern (No. 9) there were four castings from it in the machine. The pattern for the frame holding the mechanism (No. 10), that is, circular supports and stationary concave supports. This piece
65 of machine (No. 12) is the head-piece. The plate with the two pins in it came on to the heel-seat of the counter while the circular and stationary supports were solidifying and setting to shape the outer part of the counter. The two disks (Nos. 14 and 15) were guides to hold a circular and concave support from coming in contact with the former, rotating against and in the grooves of the two pieces above and next to the plate. This piece (No. 13) is the box in which the former-shaft rotated.

The whole machine in its working parts operated in a motion from one centre. The piece No. 11 is a mould arranged with strainers to form a counter direct from pulp, intended to avoid forming leather-board into sheet and then rolling, and also to save waste and cutting.

Int. 91. Please produce such parts as you have here of the machine referred to in cross-int. 72, and describe them briefly.

Ans. I produce the main frame and the former of that machine. (Now put in evidence and marked Exhibit Moffitt No. 16, C. F. S., sp'l ex'r.)

JOHN R. MOFFITT.

Attest:

CHA'S F. SLEEPER,
Special Examiner.

Deposition of Henry Hughes.

BOSTON, *July* 11, 1877.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. Henry Hughes; 38; Chelsea, Mass.; counter-maker.

Int. 2. In whose employ are you now?

Ans. Bisbee & Endicott's.

Int. 3. On whose work are you mainly occupied?

Ans. Mr. Moffitt's.

66 Int. 4. When did you first commence to make counters of leather-board, and where?

Ans. I first commenced about August, '75, at West Groton, for Mr. Edwin H. Sampson.

Int. 5. What machine did you use?

Ans. Moffitt's machine.

Int. 6. Which one of those now before you?

Ans. This one; Exhibit Machine No. 5.

Int. 7. How many counters can you make in ten hours on that machine, and how many is a fair average for ten hours' work?

Ans. Five thousand pair. I could average five thousand, year in and year out. The largest amount I ever have made in eleven hours is 7,200 pairs.

Int. 8. Have you ever used the machine marked Exhibit Machine Nos. 1 and 2? If so, produce samples of counters made upon that machine, and state with what former they were made and when they were made.

Ans. Yes. There is a sample made with the oblong former, six pairs. This is the oblong former (Exhibit Heel-shaped Former). These were made without any extra speed upon the support. (These six pairs are now put in evidence and marked Exhibit Hughes No. 1.) They were made the 30th of June last. These six pairs were off the same machine, with a belt on the shaft of the top roll, running it three times as fast as the former—the same former. In both the former revolved continuously. (These six pairs are now put in evidence and marked Exhibit Hughes No. 2, C. F. S., sp'l ex'r.) This is a sample, six pairs, on same machine, with the round former now in it. They was made with the support-roll not revolving except when the counter was in it; that is, only as revolved by the former. (These six pairs are now put in evidence and marked Exhibit Hughes No. 3, C. F. S., sp'l ex'r.) These six pairs were made on the same machine, with the support-roll revolved three times as fast as the round former. (These six pairs are now put in evidence and marked Exhibit Hughes No. 4, C. F. S., sp'l ex'r.) They were all made the 30th of June last.

Int. 9. How many blanks were used in making these 48 stiffeners; that is to say, how many blanks were put in the machine, and how many were spoiled, if any?

67 Ans. There were 48; none spoiled.

Int. 10. How were the blanks put in the machine?

Ans. Well, they were entered end on to the two rollers.

Int. 11. Have you ever used the machine marked Exhibit Machine No. 3? If so, produce samples of counters made upon that machine, and state when they were made.

Ans. Yes. These six pairs were made the 30th of June last. (These six pairs are now put in evidence and marked Exhibit Hughes No. 5, C. F. S., sp'l ex'r.)

Int. 12. How many blanks were spoiled, if any, in making these six pairs?

Ans. None.

Int. 13. Have you ever used the machine marked Exhibit Machine

No. 4? If so, produce samples of counters made upon that machine, and state with what former they were made and when they were made.

Ans. Yes. These six pairs were made the 30th of June. This is the former. (Heel-shaped former for machine No. 4.) (These six pairs are now put in evidence and marked Exhibit Hughes No. 6, C. F. S., sp'l ex'r.)

Int. 14. How many blanks were spoiled, if any, in making these six pairs?

Ans. None.

Int. 15. How many counters, in all, have you made, so far as you can now estimate, on these three machines, Exhibits Machines Nos. 1 and 2, 3 and 4?

Ans. I should say I had made five hundred pairs on them.

Int. 16. Who else have you seen use these machines and make good, fair counters on them?

Ans. Mr. Robert Mason, Mr. A. H. Spencer, Mr. J. E. Maynadier. That's all.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 17. Whether or not these exhibits produced by you which were made on machines, marked Exhibits Machines 1 and 2, 3
68 and 4, have been shaped upon any other machine, or by any other process since making them upon those machines; and, if so, how?

Ans. No, sir; they have not been shaped on anything else.

Cross-int. 18. In making said exhibits on said machines how did you give them the form they now have of counters? Was it done by the machine itself, or by your hand pressing against them, or how otherwise?

Ans. It was done by the machine itself.

Cross-int. 19. What form is given to the counter made upon the machine Exhibit Machine 1 and 2, with the round former now in it, without pressing your hand against the blank during the operation of the machine in making the counter?

Ans. It would come out a little more open; it wouldn't be quite so close.

Cross-int. 20. When did you first see a machine like Exhibit Machine No. 4?

Ans. About three months ago.

Cross-int. 21. About how many counters in all did you ever make or see made, so far as you can now estimate, on that machine, or a machine like Exhibit Machine No. 4?

Ans. About fifty pairs.

Cross-int. 22. How long time did you take preparing to make these exhibits that you have produced here on these several machines, either by experimenting or preparing the machines themselves, or the counters to be made therein?

Ans. I got my stock ready and made the counters on the 30th of June last; I cut the stock out with the shears, and altogether it might have taken an hour and a half.

Cross-int. 23. What, if any, time, did you give to experimenting in making such counters as you have produced here, aside from the hour and a half named in your last answer, either on the 30th of June last or any other day previous thereto?

Ans. I worked about half an hour on No. 4. The other machines are what I have been used to—something similar.

Cross-int. 24. Did you ever make any counters on a machine similar to Exhibit Machine No. 4, previous to June 30th last?

Ans. No, sir.

69 Cross-int. 25. When did you first see the machine Exhibit Machine No. 4?

Ans. About three months ago.

Cross-int. 26. When did you first try to make counters upon the machine Exhibit Machine No. 4?

Ans. A day or two before the 30th of June, when Bob Mason was away, I put one or two through for amusement. I had no orders.

Direct resumed:

Int. 27. Had the blank from which these counters (Exhibits Hughes Nos. 1 to 6) were made been shaped in any way except round the edges before you put them through the machines; or were they flat?

Ans. They were flat.

Cross-examination resumed:

Cross-int. 28. How were said blanks, referred to in your last question and answer, shaped round the edges before they were put through the machine?

Ans. I cut them to a pattern like these. (Witness produces two blanks, which are now put in evidence and marked Exhibit Hughes No. 7, C. F. S., sp'l ex'r.)

Cross-int. 29. For which of said machines do you use the counter-blanks notched, and for which plain, unnotched?

Ans. In Exhibits Machines 1 and 2 and 4 the blanks are notched. In No. 3 they are not notched.

Cross-int. 30. Why do you use those blanks on those machines notched?

Ans. They form easier.

Redirect:

Int. 31. How were the blanks that you used on Exhibit Machine No. 7, when you were making counters for Mr. Sampson on that machine; notched or unnotched?

Ans. Notched.

70 Recross:

Cross-int. 32. In using the machines Exhibit Machine No. 1 and 2 and Exhibit Machine No. 7, in which way were they generally used in practice, with the support or outer roll speeded up as you have stated, or otherwise?

Ans. No. 7 was always used with speeded outer rolls when I used. I have never seen Exhibit Machine No. 1 and 2 used except in Bisbee & Endicott's machine-shop, preparing these exhibits and others like them.

HENRY HUGHES.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of Albert H. Spencer.

BOSTON, *July 6th*, 1877.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name; and have you before testified in this case?

Ans. Albert H. Spencer; I have.

Int. 2. Mr. Waters thinks that the machine described in the Moffitt reissue is not practically operative. State your opinion as to this, giving your reasons fully, and stating any facts within your knowledge about it.

Ans. I am satisfied Mr. Waters is mistaken in his opinion. I know he is mistaken, for I have seen machines made in accordance with the Moffitt reissue operate successfully in the manufacture of counters, and I have myself operated those machines with success, although I am not a practical workman in that line of business. The counters produced in these operations were, as I believe, fair merchantable goods. I will produce the machines on which they were made and samples of counters made by me on them.

This machine (now put in evidence and marked Exhibit Machine No. 4, C. F. S., sp'l ex'r) is the machine marked Figures 4 and 5 of the reissue drawing, having the reciprocating or rotary former with
71 three supports to shape the counter-blank or hold it to the former. To avoid the necessity of inconveniently heavy weights for the side-supporting rollers, levers have been supplied to this machine not shown in this drawing, but otherwise the machine is made according to the patent.

I first saw this machine on the 14th of June last, at a machine-shop in Chelsea. I then and there saw it operated by one of the workmen, and operated it myself. The samples which I here produce are such as I made during the first twelve trials, not all of them perfect, but showing what the machine is capable of doing even by one not experienced. (The counters are here put in evidence and marked Exhibit Spencer, No. 1, C. F. S., sp'l ex'r.) The workman who was present, and who also operated the machine, was able to produce perfect counters from this machine every time, and with considerable rapidity.

The machine now produced (here put in evidence and marked Exhibit Machine Nos. 1 and 2, C. F. S., sp'l ex'r) is the machine shown in the drawings, Figures 1, 2, and 3; that is, it has the rotating or reciprocating former and a single support or roller to shape the outer face of the blank. Two different formers have been provided for this machine, on circular in X section, and the other more of a heel form, but both "adapted to give the desired shape to the counter." This machine, with each of the formers, I saw operated, and I also made counters in it myself on the 14th of June, and again on the 28th of June. I now produce two samples of counters made by me in this machine June 28th (now put in evidence and marked Exhibit Spencer, No. 2, C. F. S., sp'l ex'r,) the former used being the one circular in X section. The counter I now produce I made on the 28th in this machine, having the heel-shaped former (now put in evidence and marked Exhibit Spencer, No. 3, C. F. S., sp'l ex'r). This sample was the second one I made in that machine on that day.

When I saw this power machine on the 14th day of June it was arranged with a driving-belt and pulley to give an increased speed to the flanged supporting-roll, and in this respect it differed from what is described in the patent and from what is now shown in the machine. The counters, Exhibits Spencer Nos. 2 and 3, I made in that machine
June 28 without the increased speed arrangement; that is with
72 the belt thrown off from the pulley, so that the supporting-roll was driven only by power applied to the former, as is the roll C in the patent.

I made some counters on the 14th of June in the machine having the increased speed of the supporting-roll, using each form of former. I

now produce samples of those counters (now put in evidence and marked Exhibit Spencer No. 4).

The operation of this machine was substantially the same, whether with or without the increased speed; that is, the counter travelled with the former through the machine, and was pressed and rubbed between the former and the support, but when additional speed was given to the supporting-roller, greater friction was produced upon the outer surface of the counter, which was thereby made to hug more closely to the former without manipulation by the hands of the operator. When the supporting-roll was driven by frictional contact only, it was necessary to hold the counter-blank to the former in part by the hand of the operator, to give it the requisite curve in the direction around the axis of the former; but some manipulation is in all cases necessary in order to present the blank properly to the machine.

I now produce another machine (now put in evidence and marked Exhibit Machine No. 3, C. F. S., sp'l ex'r), which represents another form of the Moffitt machine, not illustrated in his drawings. It has a former for the inner face of the counter and two supports to hold the blank firmly against the former. One of these supports is a roller and the other is a stationary support with a hollowing surface, both supports having a surface "the converse of and conforming to that of the former."

I made counters on this machine on both the 14th and 28th of June, and I produce samples made on the latter day (now put in evidence and marked Exhibit Spencer No. 5, C. F. S., sp'l ex'r).

In all these experiments the workmen were able to produce much better counters than I could make, owing to their greater skill and experience. Samples of their work will be produced in due time, I suppose. I will say that I was greatly surprised, after reading Mr. Waters' unqualified statement that the Moffitt machine was good for nothing, to find that these machines would produce perfect work. I am satisfied he must have operated with a bogus machine or have
73 been actuated by a strong purpose of "how not to do it." The Moffitt machine is adapted for making counters, and in the hands of a skilled workman, with proper stock, it will produce counters which are in every respect calculated for a practical use. My experiments have demonstrated that fact.

Int. 3. How many counters in all, so far as you can now estimate, have you seen manufactured upon these machines? (Exhibits Machines Nos. 1 to 4.)

Ans. Probably about three hundred to four hundred, though I can't pretend to be exact.

Int. 4. How many persons have you seen use these machines successfully, and who were they?

Ans. Three, besides myself; a workman named Hughes; another called Bob; and Mr. Maynadier.

Noon recess, 12½ to 1½.

Int. 5. What aid, if any, or what special instructions, if any, did you receive from any one, and from whom, when you manufactured the counters produced by you, and others made by you in any of these machines?

Ans. I watched the workman who first operated the machines while he made three or four counters on each, and I noticed particularly how and where he placed the blank in beginning to form the counter; then

I proceeded as I had seen him do. I can recollect no special instructions, except that the blank was to be held against the former so as to ensure the proper curves to the body of the counter and to the flange. Some of my early efforts resulted in forming a flange too far from or too near to the edge of the blank, or in other words I turned too wide or too narrow a flange and occasionally the flange would be narrow at one side and broad at the other. In such cases I could see I had entered the blank improperly and I remedied my error in future trials. One lot of stock on which I experimented was too damp, so that it would split at the upper edge and pucker too much, but on obtaining material properly tempered I had no trouble.

In my several experiments I had occasionally suggestions from each of the workmen to whom I have referred, but never any instructions from Mr. Moffitt.

74 Int. 6. Please explain how the counter-blanks were entered by you in making the counters you made and by the persons who you saw using the three machines, Exhibit Machines 1, 2, 3 & 4, and consider in the course of your answer what Mr. Waters has to say about "beginning to shape the piece at the middle and working towards each end," in his direct examination, in answer to Int. 12, and state what directions, if any, you find in the patent as to this.

Ans. In using the machines, Exhibits Machines 1, 2 & 3, the blank was in all cases entered end first, and in using machine No. 4, where the former does not make an entire revolution the middle of the blank was placed on the middle of the operating face of the former between the former and the central support.

This method of entering the blank, or of commencing to operate upon it, is in accordance with the directions of the patent in these words "the counterpiece being placed centrally upon the former" and "the piece of the counter being properly cut or prepared is placed on the former." There is no instructions in the patent, as Mr. Waters evidently supposes there is, that in forming a counter the operator shall begin in the middle of the blank, but, as stated in the above quotation, the blank is to be placed centrally upon the former, and where the former has a continuous rotary motion and is circular in its cross-section this direction will be complied with by inserting the end of the blank between the revolving former and its outer support in such a manner as to turn a flange of proper width—the rotation of the former bringing each part of the blank successively to its proper place, and shaping it according to the shape of the former and its support. The centre of the blank will take its proper position when it is reached in the machine. It would be almost impracticable to use machines Nos. 1, 2 & 3 by commencing to operate upon a blank at the centre, because the machine is supposed to have a revolution in one direction only, and so one end of the blank would not be operated on at all.

With Exhibit Machine No. 4, the former has a reciprocating motion, and consequently could be used to advantage only by beginning at the centre of the blank and working each way towards the ends. In such case the centre of the blank was placed upon the centre of the former before commencing to shape it. This was because of the re-

75 ciprocating motion of the former, and not because of its heel shape; for in using the power machine, whether with the round former or the heel-shaped former, the motion was continuous in one direction, the round former being now upon the machine, and the heel-shaped former I now produce being the other one to which I have re-

ferred. (Now put in evidence and marked Exhibit Heel-shaped Former for Machine, Nos. 1 & 2, C. F. S., sp'l ex'r.)

I was guided in placing the blank centrally upon this heel-shape former by a file-mark on the edge of the former, showing me where to place the end of the blank as it entered the machine.

Mr. Waters is very evidently mistaken in the opinion he expresses on page 24 of the record, where he states, "But the Coté former cannot be used in connection with the lower rolls of Moffitt in any other way than in the way described in the Moffitt patent, and that is by beginning to shape the piece at the middle and working towards each end." The counters produced, which were made by passing between a roller and a rotary former similar in shape to the Coté former, negative that assumption. It is perfectly practical to make counters in three roller-machines having rotary formers, by entering the blank endwise; and this, whether there be one supporting-roller or more. If the operator holds the blank close against the face of the former so that the first supporting-roller shall act upon it to set the curve around the axis of the former, the forward end of the counter in its passage through the machine will hug the former and pass successively between it and the other supporting-rolls, and be operated on by each of them.

Int. 7. Mr. Waters is of the opinion that there is no rolling action in the operation of the Coté machine such as is spoken of in the reissue sued on. Do you agree with him? And explain fully how this is.

Ans. Not at all. The rolling action spoken of in the reissue and also in the original Moffitt patent is an action of the former regardless of the character of the support which presses the blank against the former. I can perhaps best express in what I consider Moffitt's invention to consist, and what I understand by the term rolling action, by alluding first to the manner of forming counters by machinery before his day.

76 As I understand it, counters had been made by a process commonly called moulding, the essential feature of which was the employment of an inner and an outer shaping surface for the counter, between which surface the entire blank was placed, so that it received a pressure from the opposite sides of every part of the blank at the same time. Two reasons existed why such a pressure was insufficient to give permanence of shape to the counter; first, that the pressure being expended over every part of the blank at once was inadequate to so change the molecular arrangement of the particles as to set them to the shape desired; and, secondly, because the material to be operated upon varies largely in hardness and somewhat in thickness in its different parts, so that it is not equally pressed, although its whole area is between the compressing surfaces, the motion of which was towards and from each other, to gripe the blank between them and confine it within a space of a given form. In the nature of the case, when the outward pressure was removed the material would spring back to some extent and not retain the former which had been given it.

Moffitt's invention changed all this by giving to his counter-former a motion upon an axis rotary or reciprocating, so as to give to the blank a gradual pressure, or to compress it line by line instead of all at once, and he accomplished this by causing the blank to travel with the former in its rolling motion, by which I mean its motion upon the axis, whether rotary or reciprocating, which carried the blank little by little between the former and the support. In this manner he was able to give such gradual pressure and rub to the stock as to elongate permanently the outer surface of the blank as compared with the inner surface, and thus

to set the counter to shape so that its elasticity should not reassert itself.

I cannot do better than to quote a few lines from the reissue. "The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any moulding process, but to make a rolled counter, prepared, solidified, and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a better article and admitting producing the same from material hitherto found too intractable, such as leather-board, sheet-metal, &c. Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but using a moving former A devised by me, of a shape
77 adapted to give the desired shape to the counter, and set on a shaft, B, the shaft being arranged to have a continuous or a reciprocating rotary movement either by hand or by power as desired. Beneath this former I place supports or rolls, C C^1 C^2 (see Figures 4 and 5), each having a profile, as shown, the converse of and conforming to that of the former. The shaft of the former has its bearings in a swing-frame, E. F is a treddle-strap whereby the swing-frame may be pulled down to give any required degree of pressure, and which also permits the former to rise and fall as in its movements it rides and rolls over the surface of the counter," &c.

Now this rolling is described as of the former, and, as I look at it, it is entirely immaterial whether the supports or rollers revolve or not. The rolling action described will be the same in either case. It is nowhere stated in the patent, that I can discover, that these supports or rolls do in fact revolve, though from their being furnished with bearings I have no doubt it was intended that they should revolve if desired. The patent states expressly and repeatedly that the former revolves or reciprocates upon its axis, and the counter-blank is carried by this rolling action of the former between the face of the former and that of the several supports, and is rubbed and rolled as well as squeezed between them while being brought to shape.

I quote again from the reissue on this point: "My rolling action operates upon the material being formed in a manner quite different from a mere squeezing and crimping action. By my method of treatment the whole surface is rolled, and consequently as nearly as may be equally treated, and the particles of the blank are not simply pressed by a pressure in only one or two lines of direction, whereby a part of the stock shall be greatly compressed and the greater portion of it compressed but little, if any but, on the contrary, the rollers act on all parts coming between their peripheries, and in addition give a rubbing and drawing action upon the heel-seat or flange and around the angle or curve which it makes with the body of the counter. The effect of this is that as the former turns it presses forward the particles which compose the material, tends to alter their relative positions and to give them a new set by the progressive pressure imparted to them; and the repeated rollings, whether continuously in the same direction, or first in one and then in the other direction, tend to intensify and confirm this set," &c.

Adjourned, Monday, 10 a. m.

78 BOSTON, *July* 9, 1877.

That the rolling action referred to in the Moffit reissue is the action of the former, primarily, is evident. The power is applied to the axis of the former direct, and the former must revolve or reciprocate

upon its axis, whether the supports be revolving rollers or mere stationary bars, and whether they be one or many. The blank is carried with the former in its rotary motion, and not with any of the supports. The purpose of the supports or rolls is to impart adequate pressure to the counter-blank, so that the blank shall be shaped to the former in its passage between the points of nearest approach of this support to the former; or, as stated in the patent, "each of the rolls C^1, C^2 has a yielding support by means of a spring or weight, whereby it may, as the former revolves or moves, be forced up against the material being rolled to shape, and serves to hold it close against the former, the weights or springs allowing such auxiliary rolls to recede as the motion of the former may demand."

The function of these auxiliary rolls, then, is to hold the stock under treatment close against the former, and they would have precisely this function if they did not revolve. Their outline is made to conform to that of the former, and this outline is the same, of course, at every point in the revolution; so the outline would be the same if the support was not arranged to revolve, but was arranged to recede from or approach towards the axis of the former, as the rolls described in the patent do.

A striking feature of Moffitt's invention which bears the stamp of originality is that in the revolution of his former, carrying with it the blank to be operated upon little by little, every portion of the blank is brought to pass between the points of nearest approach of the two surfaces which shape it, and by this act the difficulties formerly met with in producing an equal pressure and attaining an uniform solidity with permanence of shape are entirely overcome. This result, I maintain, is due to the rolling action of the former, and is equally attained in machines having such a moving former, whether with or without revolving supports. In other words, the rotary movement of the former is vital, while that of the supports is immaterial.

With this understanding of the meaning of the term "rolling action" as used in the Moffitt patent, there can be no doubt whatever
79 that such action is essential to the operation of the Coté machine.

If I am correct in my understanding of what is Moffitt's invention, viz, a former having a motion about a centre, with mechanism supporting and pressing the blank thereto, it is clear the necessary operation of the Coté machine embodies the same combination of mechanism. There is a difference in detail in the arrangement of the support in the Coté machine from that specifically described in the Moffitt reissue, but the rolling action remains; the Moffitt stamp is upon it so long as the former is located upon an axis and carries the blank between itself and a suitable support.

Int. 8. What difficulty, if any, would any machine have, in your opinion, in substituting other devices for holding the material close against the former in place of the devices for this purpose shown in the reissue drawings? I mean a mechanic of ordinary ability and knowledge, but who is skilled in this art.

(Objected to as immaterial and incompetent, and not in rebuttal or reply to the evidence of defendant.)

Ans. I think such a person would have little difficulty, if any, in devising various contrivances for accomplishing this end. I have had prepared drawings which illustrate simple methods of doing this work. I now introduce two sheets of drawings (put in evidence and marked Exhibits Spencer No. 6 and No. 7, C. F. S., sp'l ex'r) showing different

forms of counter machines, each having a former mounted upon an axis with a support pressing the blank thereon.

Figures 1 and 2 show a heel-shaped former with a clamp, beneath which the end of the blank is inserted, the support or device for shaping the outer face of the counter being a properly pressed bar conforming in outline to the former, not revolving but pressing every portion of the blank as it is carried forward by the rotary movement of the former.

Figure 3 is a similar former, showing a spring holding the blank as it is inserted, preparatory to pressure by the supports shown in Figures 4 and 5, in which latter figures the supports are respectively a series of rollers and a series of edged bars, spring pressed, for holding the blank close against the former.

Figures 6 and 7 represent a machine in which the support is a horizontal bed moved beneath the former, which is circular in cross-
80 section, the counter-blank being pressed between the two in this movement.

The Coté machine is also an excellent illustration of a form in which the Moffitt invention may be applied, and other forms may be readily devised by a person desiring to avoid the precise construction shown in the Moffitt drawings, and yet to employ the main feature, the essence of his invention.

(Objected to as immaterial and incompetent and not in rebuttal or reply to the evidence of defendants, and as not responsive to the interrogatory.)

Int. 9 (de bene). Please answer the 13th interrogatory to Mr. Waters, page 25, viz: "Will you refer to the first two claims of the Moffitt reissue, and, without undertaking to construe them, will you state what difference there is in the mechanism or combinations described in these two claims, having reference to the description and drawings for ascertaining the things to which the terms apply."

(Objected to because the inquiry is as to a question of law not within the province of the witness.)

Ans. With all due respect to Mr. Walter's opinion, from which I would not like to differ without the best of reasons, I think there is a very marked distinction in the mechanism or combinations described in these two claims. It is very common in a case like this, where an inventor strikes out into a new field where he is unfettered by the doings of others, being himself a pioneer—I say it is very common for an original inventor in a given field to obtain a broad claim, covering, without limitation to precise details, the salient features of his invention to enable him to hold more than the bare ground he stands on, and to prevent others from seizing the fruits of his invention while they stand just over his line fence.

It seems to me that clause 1 of the claim is of this character, and that the Commissioner of Patents did not intend to limit Mr. Moffitt in matters of detail, but to give him a monopoly for a limited term of machines embracing a revolving former with suitable mechanism co-operating with it for producing counters by this new method, in which the former revolved and carried the blank between itself and a support conforming to itself, and therefore that this first clause of claim was granted in the ordinary and proper course of proceedings.

81 I have said it was common to grant broad, general claims in such cases, and it is also common to grant in such patents additional claims reciting in detail certain combinations of mechanism within the invention of the patentee. Such a detailed claim is pre-

sented in clause 2 of the Moffitt reissue claim, in which the supporting mechanism set forth consists of a roll or rolls. It is, as I understand it, a statement that the inventor desires, in addition to his general claim, to claim particularly a machine in which the supporting mechanism consists of one or more rollers; or, in other words, he makes a specific claim to the particular devices shown in his drawings.

Int. 10. Which of the machines spoken of in your 8th answer contain the mechanism or combinations described in the first clause of claim; and which of them, if any, contain the mechanism or combinations described in the second clause of claim in the Moffitt reissue?

(Objected to as incompetent, and not in rebuttal or reply to the evidence taken by the defendant.)

Ans. All of them embrace the mechanism or combination recited in the first claim, as I understand it; while only Figure 4 of the drawing, Spencer No. 6, embraces the particular features of clause 2 of the claim.

Noon recess.

Int. 11. Please read Mr. Waters' 17th answer, pages 26 and 27 of the record, and state what you believe to be the process particularly referred to in the 3d clause of claim in the reissue, and in the course of the answer explain how the flange X of the roller C operates; and state also whether it is material or not, in practicing this process, to have the outside support a roller with a flange like the roller C.

Ans. The view Mr. Waters takes of this third claim of the reissue differs from my view in the same manner that our views of claim 1 differ, and the point is this: Mr. Waters considers the essential feature of the Moffitt invention to be one or more revolving supporting rolls, pressing the counter-blank upon and shaping it over the former, and consequently he limits the process claim to the use of mechanism of which a flanged revolving roller is an essential element. I consider the essential thing in this mechanism to be a rotary former with mechanism adapted to press the blank closely against the former, and I regard the
82 process recited in clause 3 of the claim to be the employment of such mechanism, whether the mechanism for forming the heel-seat and acting upon it be a rotary roller or not. If the court shall hold in this case that the Moffitt invention consists in the combination of a turning or revolving former with any suitable mechanism for pressing the blank against it, then it will probably also hold that the process described consists in forming the heel-seat of the counter by means of a former having a motion about a center, which motion gives to the heel-seat a drawing or rubbing action against a flange or bearing surface, whether that flange or bearing surface be part of a rotary supporting roller or some other suitable bearing surface. The mechanism and the process are intimately connected. I cannot think the Moffitt invention of the process for forming counters is necessarily limited to the use of mechanism in which the desired rub upon the heel-seat is obtained only by the difference in speed of two rollers revolving in the same direction, that is, where their contiguous faces tend to carry the blank through between them. There is much less of the desired rub in such mechanism than in mechanism where one of the surfaces is stationary; and if the rub is important, as I consider it is, it would seem strange that the pioneer in machines of this peculiar construction, which form a counter by the rotation of the former on its axis while the blank is under pressure from without, should be limited in the mechanism for producing the drawing or rubbing action to the device least likely to give sufficient rub and permanent character to the seat.

I agree with Mr. Waters upon one point in his answer 17, where he says "it is undoubtedly true that this part X of the roller C will produce a rubbing action upon the leather, or other material, between itself and the roller A, provided the roller A be kept tight down to the roller C, tighter than the flange X bears against the roller A, or what is between itself and the roller A in both cases;" but I do not consider it essential that the roller C be driven about at its smallest part, and in fact if the former and supporting roller coincide in their outlines the roller C will be driven first at one point and then at an other, according to the varying thickness and hardness of the stock; and there will at all times be a rub upon the heel-seat by reason of its position between the two moving surfaces, viz, the part X of the roller C and the corresponding part of the former.

83 The requisite rubbing action is not limited to the action of a rotating body, if I have any clear idea of the scope of this invention, but it is sufficient for the purpose if an adequate rub is obtained, whether by the flanged roller shown in the reissue drawings, or by the corresponding devices shown in the sheets of drawings introduced as exhibits (Spencer No. 6 and 7), or in any other suitable manner. The machine heretofore introduced (Exhibit Machine No. 3) shows mechanism for producing the rub upon the heel-seat, not revolving with the former but stationary with the hollowed support, so that as the blank is passed through the machine the flange turned upon it is rubbed against a stationary bearing surface and between that stationary surface and the end of the moving former. This action is similar to that in the Coté machine, identical with it, although the hollowed support has not that extent shown in the Coté drawing.

Int. 12. In this connection please restate briefly what you believe to be the distinguishing feature of novelty and main element of value in Moffitt's invention. I mean both the machine referred to in the first claim and the process in the third claim; and in doing so confine yourself as closely as possible to the specification, and explain what you there find both as to the state of the art and as to the distinguishing characteristic of Moffitt's invention.

(Objected to because it calls for the judgment of the witness on the construction of the patent as a question of law rather than a question of fact, and because it is immaterial, incompetent, and has been previously answered.)

Ans. The Moffitt invention, in its essence, is embodied in any machine which combines a turning or revolving former and any mechanism known to me, or of which I can conceive, which is adapted to shape the counter over the revolving former and to press and rub the blank as it passes little by little between the inner and outer shaping surfaces where they are nearest together, thus forming the stiffener line by line and subjecting every portion of its area, during the rotation of the former, to a pressure between these surfaces so as to give permanence of shape to the finished article, which shape is substantially that of the working faces of the forming mechanism.

The characteristic and essential feature of the Moffitt process consists in forming a flanged counter by means of a former rotating
84 or reciprocating upon its axis, in combination with a bearing surface of any form adapted to press the blank firmly against the revolving former, the blank being placed upon the former and moving with it to receive the pressure as it is carried little by little between the points of closest approach of the inner and outer shaping surfaces.

I will say right here, that the same result would be attained and the

Moffitt invention embodied in a machine in which the former was stationary and the supporting devices revolved about it, so as to rub the blank and elongate its outer surface as I have before described. Such a machine would merely reverse the action of the parts, but would not prevent that movement in relation to each other which is characteristic of the former and supports in the Moffitt invention.

I think my view of the Moffitt invention as heretofore stated is clearly based upon the statements of the patent. The state of the art before his invention, set forth in the second paragraph of the reissue, with the difficulties to be overcome, and the portion of the specification which I have already quoted in my answer to int. 7, stating the object of his invention, shows how he went to work to surmount these difficulties. It appears there had not been prior to the date of Moffitt's invention machines for making counters upon a rotary former, and by means of pressure, or what he terms rolling action, upon the blank between a rotary former and a suitable support. The counter former was to be "of a shape adapted to give the desired shape to the counter and set on a shaft B, the shaft being arranged to have a continuous or a reciprocating rotary movement."

Adjourned.

BOSTON, *July* 10, 1877.

To co-operate with the former in shaping the counter, supports having a profile the converse of and conforming to that of the former were provided; and the operation of producing a counter by the Moffitt machine and process consisted in the passage of the blank between the contiguous faces of these shaping surfaces when the former was rotated. This is the Moffitt invention. It is clearly distinct from the old moulding process, as the patent points out. Any required degree of pressure is to be applied in the Moffitt machine while the former in its movements "rides and rolls over the surface of the counter," and the blank is "rubbed and rolled as well as squeezed" between the former and the supporting mechanism "while being brought to shape." It is the rubbing and rolling and squeezing which brings the counter to shape, and which so alters the character of the surface and body of the blank as to give it a permanent shape, corresponding to that of the former. The function of the support in the Moffitt machine is to hold the material close against the former, and, as I have before pointed out, is not dependent upon a rotation of the support, but is equally well performed by a non-rotating surface. This function of the support is well set forth in the words of the first clause of claim: "a turning or revolving former in combination with mechanism for holding and shaping the blank over it." Holding and shaping the blank over the former is precisely and only the office of the supporting mechanism.

Int. 13. Mr. Waters attaches a good deal of importance to the cutting away of portions of the support in the Coté machine, forming what is called a mouth in the Coté reissue No. 2, marked C[1]. Please read what he has to say about this on pages 24 and 25, and explain what would be the effect of having a sharp edge on the support where it is first to receive the leather; both along a line conforming to the periphery of the former, and parallel with the heel-seat of the former; that is to say, having the support conforming throughout to the former, as it now conforms on the upper side of the upper former and the lower side of the lower former in Exhibit C. And state also how the existence of this mouth affects, if at all, your opinion as to the substantial identity of the Coté and Moffitt machines.

Ans. The mouth referred to in the question and by Mr. Waters is an enlargement of the space between the former and the support, to enable the blank to be readily entered and drawn between them, and without this mouth the blank would be cut and torn by the sharp edge of that part of the former where the stock is to enter the machine. It would be impracticable to work the machine rapidly without such a mouth extending along both the side and end of the former, unless the stock was previously bent, by hand or otherwise, in both the curves required in a counter, and even then there would be great
86 friction upon the material, tending to tear it rather than rub it smooth. I think I may say it is essential to the working of one of these rotary counter machines that the stock be drawn gradually between the points where the outer and inner former approach most closely, so that the blank may be shaped, little by little, between them. I therefore agree with Mr. Waters as to the essential necessity of the mouth C^1; and I disagree as heartily with his conclusion: "There is no such contrivance as this in the Moffitt machine."

The contrivance in the Moffitt machine which exactly corresponds to this mouth is the opening where the blank is entered between the former and its support, shown in each of his figures. The peripheries of the supporting rollers and the former, as they gradually approach each other, form a mouth for the entrance of the blank which prevents its being torn, and gradually compresses or rubs the stock as it enters the machine, and this mouth extends along the side and end of the former, between the former and the body and flange of roller C, so as to shape, little by little, both the body of the blank and the flange. I produce a diagram, a reproduction of Figure 2 of the Coté reissue drawing, with the addition of a dotted circle marked C^2, of which the curve of the mouth C^1 is a part. This will illustrate my view of the similarity in this respect between the Moffitt and Coté machines (now put in evidence and marked Exhibit Spencer No. 8, C. F. S., sp'l ex'r).

Int. 14. Please read the specification of Exhibit Coté Reissue No. 2, and quote from it, in your answer, those parts which in your opinion relate distinctly to the rolling action of the Coté former, and to the advantages of that action over the moulding action; and add any explanation, if you think any desirable, to make the meaning clearer.

(Objected to as calling for a construction of the patent, which is a matter of law for the court and not for an expert.)

Ans. Nearly the entire Coté specification is taken up with a description of the operation of the rotary former and its advantages, but I will quote only the following parts:

"The invention further consists in the art or process herein described of setting to shape a heel counter or stiffener, such consisting in pressing the blank by means of a roller or former against a station-
87 ary concave moulding surface, and at the same time moving or sliding such blank along against such surface, all being essentially as set forth. * * * * In the manufacture of a counter or heel-stiffener, it is important that the body or part above the flange should have a permanent set of a concave shape, which cannot be accomplished with dies as commonly used, as the material, especially if of leather-board, on being released therefrom, has a tendency to resume its normal shape in consequence of its inherent elasticity. Heating the dies only partially overcomes this difficulty. My process effectually accomplishes the desired result, owing to the friction on the outer surface of the counter, and the heat generated in forcing the counter through the mould by the roller or form, which at the same

time presses it into the mould, and aids in giving to the counter its proper shape. * * * * * * In using the machine the sheet or piece of leather is to be introduced endwise into the mouth C[1] when it will be at once seized by the rotary head and drawn through the mould. The piece will be bent, flanged, and plaited or reduced to the requisite shape.

* * * * * * *

4. The process of forming and cutting heel-stiffeners or counters for boots and shoes, consisting in subjecting the blank to compression between a continuously moving former and a stationary die, whereby both rolling and moulding action is obtained at one and the same operation."

I think this extract speaks for itself; little explanation is necessary to show the similarity of action between the Coté machine and the Moffitt machine. The rolling action of the former is clearly described and specifically claimed in the Coté patent, and the stock is pressed by the rotary former between itself and a support of similar contour in the same manner, for the same purpose, and with the same results, as in the machine described in the Moffitt patent.

Adjourned Wednesday, 10½ a. m.

BOSTON, *July* 11, 1877.

Int. 15. The defendants seem to think that the difference between the cross-sections of the former used by them and of the formers shown in the drawings of Moffitt's reissue is of some importance in this case. Please consider this matter and state your views upon it.

88 Ans. I do not regard the particular shape of the former in cross-section as of the essence of Moffitt's invention, provided the shape be such as is adapted to give to the counter the form desired. Whether the cross-section be circular, heel-shaped, or of other proper form, will depend somewhat on the character of the support and largely upon whether the counter is to receive its ultimate shape by one operation and upon that particular former, or whether it is to be shaped to the general form of a counter and by a subsequent operation to receive the final exact form desired. I understand as a matter of fact that in the operation of the Moffitt machines, in practical use, it is considered cheaper and more desirable to complete the counter by two operations, the first giving the general form, and the second the specific form and final finish, and that therefore it is customary in the first op'ation to make use of a former circular in cross-section, this being "of a shape adapted to give the desired shape to the counter" at that stage of its formation. I now produce two machines (here put in evidence and marked Exhibit Machine No. 5, and Exhibit Machine No. 6), No. 5 being the machine I have just referred to as used in the first operation to give the general counter shape to the blank, having the cylindrical former and two flanged supporting rolls with a stationary support bridging the space between the flanged rollers. I am informed that hundreds of thousands of pairs of counters have been shaped on this machine.

Machine No. 6 is the one giving the final shape to the counter formed in machine No. 5.

Exhibit Machine No. 3 also has a former circular in cross-section working in co-operation with a rotating supporting roller and a non-rotating hollowing support. This I understand to be the earliest form in

which the Moffitt invention was embodied. It is evident that in a machine like Exhibit 3 the round former is much better than the heel-shaped, in the matter of practicability, because of the character of the support. In the Coté machine, also, the former must be circular in cross-section, because the support is concentric with the axis of the former, and also because such a former and support are "adapted to give the desired shape to the counter" produced in that machine, which, as I understand it, receives a subsequent shaping approximating the true heel form.

89 The round former is somewhat better adapted for continuous rotation in one direction than is the heel-shaped, on account of there being a less amount of adjustment necessary between the axis of the former and the working faces of the supports.

I consider, however, that the Moffitt invention does not depend upon whether a cross-section of the former is a circle or of other form adapted to the production of a counter.

Adjourned.

BOSTON, *Aug.* 10, 1877.

Cross-examination by CHAUNCEY SMITH, Esq., of counsel for defendants:

Cross-int. 16. Do you consider the machine marked Exhibit 4 which you have produced to be constructed in accordance with the directions of the reissued patent on which this suit was brought, with the exception of the levers which you have pointed out acting upon the side-rolls?

Ans. Yes.

Cross-int. 17. To be more specific, are the side rolls themselves constructed in accordance with the directions of the patent as to their shape and position?

Ans. I consider that they are. The specification states on this point, "beneath this former I place supports on rollers C, C^1, C^2 (see Figures 4 and 5), each having a profile as shown the converse of and conforming to that of the former." This direction has been carefully followed in the construction of Exhibit Machine No. 4; that is, the supporting-rolls conform in outline to the outline of that part of the former on which the counter-blank is to be placed. The drawing is defective in that it does not show the roll C^2 in Figure 5 exactly conforming to the shape of the former, and in this respect the machine could not be made according to both the specification and drawing; there was evidently an error of the draughtsman in this particular. The function to be performed by the support requires its profile to be the converse of and conforming to that of the former. I think the machine would make a

90 perfect counter, however, even if the auxiliary supporting-rolls did not at every point exactly conform to the former, because the deficiencies found in them would be corrected by the proper shape and action of the main support C. Still the directions of the patent are that all the rolls shall conform in shape to the former. I can see no variation in the position of the side rolls from that laid down in the patent; they form a bed upon which the former presses the counter-blank, and by which the blank is pressed and rubbed against the former.

Cross-int. 18. You do not consider, as I understand you, that the description in the patent, in connection with the drawings, requires that the two side rolls shall extend over the end of the former in the way the middle roll does?

Ans. The patent is silent as to this particular part of the side rolls, and does not say expressly that the rolls C^1 and C^2 shall extend over the end of the former, but merely that they shall conform in outline to the former. They could not be made with as broad a flange as the central support C, unless they were set at a greater distance from each other than is shown in the drawings. The specification does not limit their distance from each other.

Cross-int. 19. What do the drawings indicate as to the form of the side rolls as compared to the central roll?

Ans. The drawings indicate that the side rolls are not relied on to form the flange of the counter.

Cross-int. 20. You speak of having seen machine, Exhibit 4, operated June 14 and June 28. Had you ever seen this machine or any machine constructed like it or according to the description in the reissue patent before June 14th, and if so, when and where?

Ans. I had before that date seen Exhibit Machine No. 3 in the office of Mr. J. E. Maynadier, but I remember no other.

Cross-int. 21. Have you ever seen machines in operation like the defendant's machine which it is alleged infringes the reissue patent? If so, state when and where you first saw such machines, and how much you have seen them in operation.

Ans. I first saw the Moffitt's machines, introduced in this case, on the 14th of June. They are like the defendant's machines in all material respects of construction and operation. The extent to which I have seen them operated is limited, as stated in my direct examination. I have not seen in operation the machines made or used by defendants, such as Exhibit C.

91 Cross-int. 22. When did you first see machine marked Exhibit C, or one constructed like it?

Ans. I think on the 10th day of July last I first saw Exhibit C in this case. I have seen no other of this detailed construction.

Cross-int. 23. When did you first see the machine to which you have referred, marked Exhibit Machine No. 3, and when and how much have you seen it used?

Ans. I first saw that machine about a year ago, I should think, in Mr. Maynadier's office. I saw it used on the 14th and 28th of June last, and on one or two subsequent occasions, to make fifty or sixty counters in all.

Cross-int. 24. In your direct examination you have produced a machine marked Exhibit Machine, No. 1 and 2. When and where did you first see that machine, or one constructed specifically like it; and when and how much have you seen such machines used?

Ans. I first saw it on the 14th day of June last, and I have seen it in operation once or twice since, all for the purpose of illustration of its capabilities, and not in the way of regular use in a shoe-shop or counter factory.

Cross-int. 25. In your direct examination you produced some counters marked Spencer No. 1, which you made on the machine marked Exhibit Machine No. 4, and in connection with their production you say, "not all of them perfect, but showing what the machine is capable of doing even by one not experienced." Do you mean to indicate by this that some of the samples produced are not perfect, or am I to understand that you rejected the imperfect ones and produced these as specimens of what did come perfect?

Ans. The specimens I produced marked Spencer No. 1 were probably among the best that I made in operating upon the first twelve blanks.

They were among the first dozen counters I ever made, and are, as I stated, not all of them perfect. I went on to say, however, in that same answer: "The workman who was present and who also operated the machine was able to produce perfect counters from this machine every time and with considerable rapidity.

Cross-int. 26. Will you place a mark upon those of the samples you have produced, marked Spencer No. 1, which you consider perfect?

92 Ans. My judgment as to what counters are perfect may not be conclusive, but I have put a cross with green pencil on four of these counters, which I think will pass under that head.

Cross-int. 27. Will you look at the original patent of which the patent in suit is a reissue, and state whether you find in it a claim to the counter produced by the machine as a new article of manufacture, and a representation in the drawings of such article of manufacture?

Ans. I do. The claim is numbered 2 and the illustration Figure 5.

Cross-int. 28. And will you now turn to the reissue and state whether you find in it a similar claim, and the same representation in the drawings of the article?

Ans. The drawing is substantially produced numbered Figure 6, but there is no specific claim to the article in the summing up at the end of the specification; but the opening statement in the descriptive part of the patent is, "Be it known that I, John R. Moffitt, of Chelsea, State of Massachusetts, have invented an improved heel stiffener or counter for boots and shoes," which would seem to indicate that the article produced by the mechanism and process claimed originated with him; or, in other words, that he considered himself to be the original inventor of a counter made upon a turning or revolving former, as described in the patent.

Cross-int. 29. In connection with the production of the counters marked Exhibit Spencer No. 1, you spoke of a workman being able to produce perfect counters with considerable rapidity, but I do not observe that you say anything of the rate at which you were able to produce them. Will you state, if you can, how long it took you to produce each one of the exhibits, and how many times the material was passed between the former and the rollers to bring it to the shape of the exhibits?

Ans. I should say I was engaged from ten to twenty seconds on each of the exhibits, and that the former, carrying the blank with it, was reciprocated twelve or fifteen times in each case.

Cross-int. 30. The specification in one place speaks of the counter-piece being placed centrally on the former, and in another place being placed on the former. Will you describe in words, so that we can, if we desire, repeat the operation, how you placed the counter-piece on the former?

93 Ans. In operating with machine No. 4 I found it most convenient to lay the blank across the supporting rolls first, with its edge which was to form the flange projecting over the enlarged end of the central roller C, then to bring the former down upon it so that the rear or heel part should rest or bear against the central part of the counter-piece. In this manner the blank was placed centrally upon the former by means of the supports C^1 C^2 which first received it; then the swing-frame was pressed down until the blank was by the former brought to bear on the central roll, and the side rolls were depressed somewhat after they had brought the ends of the blank up against the sides of the former. The former was then reciprocated a sufficient

number of times to give a proper pressure and rub upon the counter-piece to bring it to the desired shape. In some cases I held the ends of the blank against the sides of the former by the thumb and finger of my left hand during the operation or a portion of it.

Cross-int. 31. Did the workman to whom you referred proceed in the same way; and did he find it necessary to give the former about the same number of turns that you gave it?

Ans. He proceeded in substantially the same way that I did. The number of reciprocations depend somewhat on the degree of pressure, and also upon the hardness of finish desired. The number was about the same with him or with me.

Cross-int. 32. Will you repeat the operation you have described upon the counter-piece I now hand you, noting the time and the number of reciprocations which it requires to bring the piece to conform in all its parts permanently to the shape of the former?

Ans. The blank handed me is not properly notched in the manner necessary to the proper operation of this machine No. 4 to enable it to form the flange of the counter. I have never tried machine No. 4 without having the blanks notched, and I will not be answerable for the result of this trial; but I will do the best I can. I notice the blank is of a particularly hard, compact, heavily-rolled piece of leather-board, and I can only tell by trial how it will be affected in the machine. (The witness now puts the blank in the machine.) I have made the experiment requested, giving the machine six reciprocations. I did not note the time. I placed the blank too far over the enlarged part of the central supporting-roller, and owing to the absence of the
94 notches in the edge of the blank I have been unable to form a perfect counter, and now return the blank to counsel. (Blank now put in evidence by defendants and marked Exhibit K, C. F. S., sp'l ex'r.)

Cross-int. 33. I now hand you another piece. Will you now repeat the operation, taking care to place the blank properly in the machine?

Ans. I have done so, occupying in the whole operation about 30 seconds, and giving eight or nine reciprocations to the former. The blank in this case was of the same character as in the former trial, and not notched. I cannot without experiment, if at all, make a perfect counter of stock in this condition and not notched on the edge. This is imperfect also, and I return it. (Now produced and marked Defendant's Exhibit L, C. F. S., sp'l ex'r.)

Cross-int. 34. Why do you consider it necessary to have the counter-pieces notched?

Ans. Notching removes a part of the stock and permits the remainder to be turned in towards the axis of the former, without crimping the stock or laying it in folds where the flange should be smooth.

Cross-int. 35. Should you consider it necessary to notch the pieces in using the defendant's machine, represented by Exhibit C?

Ans. I have never seen that machine in operation. If a broad flange was to be turned upon the counter I think the process would be facilitated by notching; but from my experiments with Exhibit Machine No. 3, which has a round former with rotation in one direction and a stationary hollowing support, I know that notching is not necessary when a narrow flange is to be produced.

Cross-int. 36. Do you mean to be understood that in Exhibit Machine No. 3 you can produce counters without notching the pieces, having flanges of the width required in making different kinds of shoes?

Ans. I do. The Exhibits Spencer No. 5 shows this.

Cross-int. 37. How much wider flanges could you turn without notching in that machine than the flanges in Exhibits No. 5?

Ans. I think that particular machine is not constructed so as to turn a flange much wider than is shown in Exhibits Spencer No. 5, whether with or without notching.

95 Cross-int. 38. What difference is there in the action of the machines which enables flanges to be turned without notching in Exhibit Machine No. 3, while they require to be notched in Exhibit Machine No. 4?

Ans. Exhibit Machine No. 3 is much more powerful than Exhibit Machine No. 4, and its rolls are geared together, the former being circular in cross-section, and it has a stationary support for both the side and the flange end of the blank, and by these means such a machine may stretch the stock more fully in one part and compress or compact it along the flange part. The width of the flange required has very much to do with the question whether notching will be required or not. In the samples put in, the wide flanged counters are all notched, and the narrowed flanged counters made in Machine No. 3 are not notched because the machine was intended to turn only a narrow flange. It is not so much the action of the machine as it is the width of flange required which determines whether the blank need to be notched or not.

Cross-int. 39. Do you think that in the defendant's machine represented by Exhibit C it would be necessary to notch the blanks in order to turn flanges as wide as those in counters produced by you marked Exhibit Spencer No. 1, or even wider?

Ans. I never saw that machine in operation, and I can only infer how it would operate on blanks not notched from my experiments with machine No. 3. I think a machine constructed like Defendant's Machine Exhibit C would, without notching the blank, turn a flange as broad as those on any of the Exhibits Spencer No. 1—the former and supporting bed being adapted therefor.

Cross-int. 40. Then the turning of a flange without notching the blank depends somewhat, at least, on the construction of the machine and not altogether on the width of the flange, does it not?

Ans. Certainly.

Cross-int. 41. Will you look at the pieces marked Exhibit I, and state, first, whether you would consider the flanges to be wide flanges, and, secondly, whether you find any evidence that the flanges are notched?

Ans. The flanges may properly be called wide flanges, and while the stock has not been notched along the flange, it has been

96 crimped or pleated so as to dispose of the portion that is turned in towards the axis of the former, by folding one portion over another and compressing it very much, the edge of the blank being first skived down or thinned very considerably. This pleating or crimping of the stock is the equivalent in result of the notching to which I have referred, since it disposes of that portion of the stock which is turned in towards the centre. In the one case a part is cut away to make room for the rest, and in the other it is thinned, doubled, compressed and left there.

In my answers about notching the blanks and the width of flange that could be turned without notching, I have contemplated the formation of a counter having a smooth heel-seat, not doubled or crimped; or one characterised, in the words of the reissue, by "the almost entire avoidance of perceptible puckers or crimps."

Cross-int. 42. Do you mean to intimate that the pieces from which Exhibits I were formed were crimped or pleated before they went into the machine, or by any operation other than what the machine performed upon the pieces?

Ans. No.

Cross-int. 43. Were not the pieces which I handed to you to be operated upon scarfed or thinned upon the edge upon which the flange was to be turned?

Ans. Yes.

Cross-int. 44. Can you upon machine No. 4 turn flanges like those upon Exhibit I, upon pieces which are simply thinned or scarfed as the pieces were from which Exhibit I were made?

Ans. I have never attempted it except in the two experiments to-day, and in those trials I did not succeed. I would not like to say that I could not upon further trial, particularly if I was satisfied with a flange crimped and puckered as are the flanges on Exhibit I.

Cross-int. 45. Would you like to say that you think you could produce such flanges whether you were satisfied with them or not?

Ans. I would not like to say it with the machine as at present made.

Cross-int. 46. What is the part in machine No. 4 which turns the flange, or does what is done towards turning the flange?

Ans. The flange is formed by the blank being drawn or forced
97 between the end of the former and the flanged or enlarged part of the supporting-rolls, which is adapted to press the blank against the corresponding part of the former.

Cross-int 47. Do you find in machine No. 3 a roller provided with a flange for forming a flange on the counter in the manner in which it is done in machine No. 4?

Ans. In machine No. 3 the flange-forming support is stationary; that is, it does not revolve; while in machine No. 4 the support turns upon its axis. In both cases the blank moves with the rotary former, and is by the former pressed against the support to form the flange, as well as otherwise to shape the counter.

There is no flange-roller in machine No. 3.

Cross-int. 48. I notice that on the exhibits marked Spencer No. 5, to which you have referred, the flange is formed along the whole piece from which it is turned and it is represented as being so turned in the drawings of the patent, while in Exhibit No. 1 the flange, such as it is, is not turned along the whole length of the piece, and I should judge that no effort had been made to make it extend the whole length of the piece. Why, in making those exhibits, did you stop short of doing all that is represented to be done in the drawings of the patent?

Ans. In making Exhibits Spencer No. 1, the ends of the blank were pressed against the former by the side rolls, which are not made with a broad flange to fit against the end of the former, and consequently the extreme ends of the counter formed in that machine have not formed upon them the flange at such an angle as along the centre, since there is nothing to press the extreme points of the blank against the end of the former. I understand that a counter not having a sharpely-defined flange at its extreme forward ends is preferred by shoe-makers for convenience in inserting the linings. I turned the flange, however, on these exhibits as much as the machine with this former would permit of without making a complete revolution of the former. With the oval-ended former shown in Figure 3, the former may be continuously revolved and not reciprocated, and in that case the ends of the counter-blank are carried forward and pressed between the end of the former

98 and the flange on the roller C, and the flange is formed upon that part of the counter, as shown in Figure 5.

Adjourned.

BOSTON, *August* 11.

Cross-int 49. Can you place in machine No. 4 a former such as is represented in Figure 3 of the Moffit reissue? If so, please do so, and take a notched counter-piece and convert it into a counter by a continued revolution in one direction, noting the time it takes and the number of revolutions required.

Ans. I can and will place such a former in the machine, and will attempt to make a counter with it, though I have not previously tried this former in this way. I observe that the former does not fit the rollers, particularly near the flange end, and it is for this reason that this oval-ended former has not been introduced as one of the exhibits. The result of this trial is one minute time and six revolutions of the former, and an imperfect half-formed counter. By a little experiment, with the proper adaptation of the supports to the former, by which I mean a former and supports coinciding in their outlines so as to properly press the blank between them, I could make a counter in this way.

Cross-int. 50. Do you care to repeat the experiment with the present former, and see if you can obtain better results?

Ans. I think not.

Cross-int. 51. Do you think that this former which you have tried is made in accordance with the directions of the reissued patent, and leaving out of consideration the want of adaptation to the rolls?

Ans. Adaptation of the rolls to the former is an essential element of the reissued patent, and without that adaptation the conditions depended on in the patent for producing a counter fail. Aside from the want of adaptation the former is constructed according to the directions of the patent contained in these words, "The end *g* of the former need not be a plane as shown in Figure 1, but instead may be rounded at its opposite end, as shown in Figure 3, so that it may be continuously revolved in either direction."

Cross-int. 52. I notice that this former has grooves cut across its face over the whole working surface. Do you find that feature described in the Moffitt reissue?

99 Ans. No.

Cross-int. 53. I notice also that the former you previously used has its surface roughened somewhat like a rasp, and that it appears as though it had been designedly done with a chisel or some similar tool. Do you find in the Moffitt reissue any description of that feature of the former?

Ans. No. The roughening of the surface of both these formers is for the purpose of causing the blank to travel with the former rather than be detained in its movement by the smooth supporting-rolls. It is an obvious mechanical expedient which would occur to any skilled workman using the machine, without specific instructions from the patentee. If both former and supports were equally smooth on the first trial, and the blank-die not move forward with the former, the workman would naturally proceed to roughen the former before a second trial. Just this thing has been done with these formers. The surfaces were roughened in view of the work they had to do.

Cross-int. 54. In your answer to the 7th direct int., when speaking of the rolling feature of the machine described in the Moffitt reissue, you

use the language, "Now this rolling is described as of the former, and as I look at it it is entirely immaterial whether the supports or rollers revolve or not." What language in the reissue specification do you find which says, or suggests to your mind, that it is immaterial whether the supports or rollers revolve?

Ans. Immediately following the language quoted in the question, I pointed out in the 7th answer that while the patent expressly and repeatedly described the rotation of the former on its axis, giving to that action of the machine great importance, it nowhere stated that the supports were to revolve. There is no language in the patent affirming or denying their revolution, and from this fact I infer that it is immaterial whether the supports or rollers revolve or not.

Cross-int. 55. I find in the reissue specification this language, "The rollers act on all parts coming between their peripheries, and in addition give a rubbing and drawing action upon the heel-seat, or flange, and around the angle or curve which it makes with the body of the counter." What rollers are these between the peripheries of which the parts of the counter come and on which they act?

Ans. The former and its supports are undoubtedly referred to, since the blank is only acted on in its passage between them.

100 Cross-int. 56. Isn't it the fair and natural import of this language that the rollers on both sides of the counter act in the same way as rollers?

Ans. Not necessarily. I think the fair and natural import of the language of the patent, as a whole, is affected in relation to this point by the fact that in all the description there is no assertion of rotation, and that no power is applied directly to the supports; and that the function of the supports is to press the blank against the former so as to shape it to it, and that this pressure against the blank is attained whether the supports revolve or not; and in view of all these circumstances I think we are entitled to believe, as I do believe, that the rotation of the supports is an immaterial feature.

Cross-int. 57. In another part of the same answer I find this language, "It is nowhere stated in the patent that I can discover, that these supports or rolls do in fact revolve, though from their being furnished with bearings I have no doubt that it was intended that they should revolve if desired." Do you mean to intimate by this language that the rolls will revolve or not according as the operator may desire them to do?

Ans. No; but rather whether they were made to revolve or made not to revolve; in other words, whether they were rotary rollers or stationary supports.

Cross-int. 58. Do you find any language in the specification directing or suggesting that stationary supports may be substituted for the rollers there described? If so, please point out the language.

Ans. I observe the specification employs the alternative terms, "supports or rollers," indicating that there may be a rotary or non-rotary character to these devices which press the blank against the former. There is no substitution of either one for the other referred to in the specification.

Cross-int. 59. Then, if I understand you, you think the term "support," used in the specification in connection with the words "rolls" or "rollers," refers to some device which is not a roller, but which is to be used in the place of a roller? Is this your understanding of the specification?

Ans. I understand the term "support," as used in the specification, to be a somewhat broader or more general designation of that

101 part of the apparatus which holds the blank close against the former, and that it would not be limited in its meaning to a rotating roller.

Cross-int. 60. Do you think it embraces some kind of supporting device which is not a roller; and do you understand it to direct or suggest the use of some supporting device which is not a roller?

Ans. Yes.

Cross-int. 61. Will you examine the specification of the original patent, and state whether you find the term "support" used as the alternative for "roll" or "roller," and point out what language, if any, you find there which directs or suggests the use of any supporting device which is not a roller?

Ans. The original patent appears to be silent as to any equivalent device for the supporting-rollers.

Cross-int. 62. When a specification directs that a device shall be constructed as a roller, is it fair to infer that it was intended to act as a roller?

Ans. I think so, unless the circumstances indicate to the contrary.

Cross-int. 63. Do you find anything in the reissue patent to indicate the contrary in regard to the supporting-rolls there described, except the term "support" which has been interpolated into that patent, and in respect to which the reissue differs from the original?

Ans. Nothing, except the absence of any statement whatever that the rollers are rotary, and the absence of any means of applying power to those rollers except through the friction of the blank upon them, in respect to which the reissue conforms to the original.

Cross-int. 64. You have referred in your direct examination to an old method of forming counters by means of a concave mould, in shape substantially like the counter to be produced, into which the blank is forced by another device conforming to it in shape and acting as a plunger or male die. Would not this second device by means of which the pressure was applied to force the blank into the mould be shaped like the counter which it was intended to produce, and like that part of the former in machine No. 4 upon which the counter is formed?

Ans. It might be so shaped.

Cross-int. 65. I noticed yesterday when you were making some of your trials on machine No. 4 that you laid the blank or counter-
102 piece across the two side rolls, and then brought the former down so as to carry the blank against the middle roller, pressing it against that roller with such degree of pressure as you desired. How does this method of introducing the blank in machine No. 4, and applying the pressure to it upon the middle roller, differ from the old mode of introducing the blank into the mold and applying pressure to it?

Ans. So far as regards the bare introduction of the blank to the supporting-bed against which it is pressed by the former, there is no great difference, and if the former were drawn back again without rotation it would be the reproduction of the old method substantially.

Cross-int. 66. I think, either yesterday or to-day, you introduced the blank into machine No. 4 endwise between the former and one of the side rolls, instead of introducing it directly downwards and flatwise in the manner referred to in my previous question. Will you point out, either in the original specification or in the reissued patent, any language which suggests or directs the introduction of the blank to the machine in this way?

Ans. The reissue specification has this language: "In operating the

apparatus the piece of the counter, being properly cut or prepared, is placed on the former, and, by hand or machinery, a reciprocating rotary motion of something less than an entire revolution is given to its shaft, so as to bring the most or all of the operating surface of the former into action. This is the most specific direction in the patent as to how the blank shall be introduced, and it is properly complied with by proceeding in the manner described in the question. The only other suggestion that I see upon this point in the patent is in the words, "the counter-piece being placed centrally upon the former." Either of the methods I have employed may be used to bring the blank into a central position on the former.

Cross-int. 67. Have you ever seen a shoemaker fit a piece of leather to some part of a last or lasted shoe by placing the piece on the last or lasted shoe and then operating upon the side opposite the last or shoe by rubbing it with the peen of a hammer or some similar instrument, or by rolling or hammering upon the opposite side?

Ans. Frequently.

Cross-int. 68. You are not able, I suppose, to see any analogy between this old method of bringing a piece of leather to conform to
103 the surface on which it was placed and that by which in the machine shown and described in the reissued patent a piece of leather placed upon the former is by the repeated action of the rollers upon the side of the leather opposite the former brought to conform to the former?

Ans. I can't say the analogy is sufficiently striking that the hand process should suggest the machine. I can see a similarity in results and diversity in the means, although in both cases the blank is shaped upon a former by means of pressure or friction upon its outer surface. In each case the process is gradual. In these respects I see an analogy.

Cross-int. 69. In each case the result is brought about of shaping the material to the former, or what serves as a former, by the repeated action of the instrument or device, whatever it may be, which acts on the side of the material opposite the former?

Ans. Yes.

Adjourned Tuesday, 10½.

BOSTON, *August* 14, 1877.

Cross-int. 70. Were you, prior to the date of Moffit's original patent, acquainted with a method of rolling shoe-soles between a concave and convex roller for the purpose of giving them a form conforming to the rollers?

(Objected to as not opened in the direct.)

Ans. No.

Cross-int. 71. In your second answer you produced a machine marked Exhibit Machine No. 1 and 2, and you say it is the machine shown in the drawings Nos. 1, 2, and 3, referring, I suppose, to the reissue patent. Is that machine constructed in strict accordance with those figures?

Ans. The variations between that machine and the figures 1, 2, 3 of the reissue are merely formal; for instance, the former is beneath and the supports above it, which is the reverse of what is shown in the drawings; and one of the two formers belonging to this machine is circular in cross-section, as I pointed out in my second answer, but is adapted to give the desired shape to the counter. There is also a loose collar placed at the end of the support opposite the flange to re-

104 ceive the pressure of the former when there is no counter-blank passing through the machine, but it performs no function while a counter is being formed. This collar is not shown in the drawings. I see no other difference of importance.

Cross-int. 72. Does not the reissued specification describe the shape which the counter is to assume?

Ans. Yes; it is to assume the shape of the former on which it is made.

Cross-int. 73. Doesn't it indicate that the counters are to have a peculiar shape; and isn't that peculiar shape indicated both by the form of the formers and by the figure of the counter, as being something different from what a circular former would produce?

Ans. The drawings in the reissue patent show the former in two somewhat different shapes, and the figure of the counter shows it of such shape as would be produced thereon, but the language of the specification is merely, "I employ no mould of any kind, but use a moving former, A, devised by me, of a shape adapted to give the desired shape to the counter." Now, if the desired shape of the counter were such as shown in Exhibits Spencer No. 5, the shape of the former would naturally be circular in cross-section, and in this respect not of a form shown in either of the drawings.

To have shown a circular former in the drawings would have required an additional figure, which was not necessary to be introduced, unless it was proposed to show a variety of shapes of counters. The sentence I have quoted describing that the former shall be of the desired shape of the counter is sufficient instruction, without a multiplication of words and figures, to lead a skilled mechanic to properly shape the former for the machine. I don't see that the specification requires that the counter produced shall be something different from what a circular former would produce.

Cross-int. 74. I find in the specification this language: "In molding to shape ready-made counters or stiffeners for heels of boots and shoes made of various materials, but usually of waste bits of leather, a difficulty exists by reason of the peculiar shape required," &c.; and farther along this language: "and also a farther difficulty in getting a true and permanent form throughout all parts." What do you understand by the expressions "moulding to shape ready-made counters," "peculiar shape required," and "true and permanent form throughout all parts?"

105 Ans. By "moulding to shape" I understand Mr. Moffitt referred to the old process of producing counters by a male and female mould or die, and that he recognized a difficulty of making any proper heel stiffeners by that process, for the reasons which he went on to state; and that the peculiar shape he referred to was the general form of any flanged heel-stiffener, since they all required the main or upright part of the counter to be curved in two different lines or directions and to have a flange or heel-seat turned at a sharp angle or curve to these other lines, and that he did not refer to any special new form which he proposed his counters should bear, requiring invention to make that particular form as distinguished from previous forms, or that his counter was of a form more difficult to make than previous ones. By "true and permanent forms throughout all parts" he referred to the tendency to retain a given form which counters made by his apparatus or process should possess, as distinguished from the tendency to relax the shape or change the form, which had character-

ized moulded counters; which, he says, "precludes the true preservation of the shape which a mould may impart."

I have heretofore quoted largely from the closing paragraphs of the specification a clear description of the different effect produced by his mechanism from that produced by the means formerly used. This description applies not to any particular form of counter, but to any form which it may be desired to produce.

Cross-int. 75. The specification goes on to state: "The object of my invention is not only to make more perfect ready-made-shaped counters than can be made by any moulding process, but to make a rolled counter, prepared, solidified, and uniformly hardened and set to shape by a rolling pressure," &c.

Would you think it fair to infer from this language the object of the invention was to produce counters set more perfectly to the shape they were required to have when worked into a shoe than those shaped by the old process?

Ans. No. I think his object was to perfect counters of the old form or of any desired form, and that this was to be done by the process which he calls "rolling," by which the counter should be "prepared, solidified, and uniformly hardened and set to shape by a rolling pressure." I don't see a word in the entire patent intimating
106 that the patentee supposed he had invented a counter of a new shape, but rather he had invented a process and mechanism by which the shape once given to the counter should be retained.

Cross-int. 76. Do you understand that either of the machines which you have produced having circular formers, when used with those formers, gives the shape of the counters which they are to retain permanently, or are to have when they are worked into the shoes?

Ans. Yes; I think the counters made on machine No. 1 and 2, and which are marked Exhibit Hughes No. 4, are examples of counters properly shaped on a circular former, as they would remain in practical use.

Cross-int. 77. You have produced two counters made on that machine. Will you state if they were made with the circular former, and if they are of the shape they would be required to have when worked into the shoes?

Ans. These counters are marked Exhibit Spencer No. 2; they were made on the circular former in machine No. 1 and 2, and are of a shape adapted to be worked into shoes, in my judgment.

Cross-int. 78. Will you describe the manner of making those counters, giving the number of times they passed through the machine, if you recollect?

Ans. They were made by passing the blank endwise between the former and the supporting roller. The larger counter was passed through once only, and the smaller one twice. Power was applied to the shaft on which the former is mounted, and the supporting roller was driven by friction of the counter upon it, and not otherwise.

Cross-int. 79. Will you look at the machine as it now is, with the circular former in it, and see if the former accurately conforms to the roller along the line of the pressure they give to the counter?

Ans. The roller and former do conform along that line with sufficient accuracy to answer the purpose. Their outlines seems to approach a trifle nearer than elsewhere at the point where the diameter of the former is greatest, but this variation in conformity would be imperceptible in the result.

Cross-int. 80. How would this variation in conformity affect the

degree of pressure which the blank would receive along the line of pressure?

107 Ans. The pressure would be received first and most severely along that part of the counter which was exposed to this part of the former. The former and the supporting-roll do not at this point approach each other the 32d part of an inch nearer than they do at other points.

Cross-int. 81. Did you in the use of machine No. 4 obtain the same effect of shaping the blank by subjecting it to the action of the rollers once or twice only, that you did in machine No. 1 and 2?

Ans. No.

Cross-int. 82. To what do you attribute the difference in the efficiency of the two machines in shaping the blank?

Ans. Principally to the fact that machine numbered 1 and 2 was driven by power with the supporting-roll heavily weighted, thus producing a greater degree of pressure upon the blank and giving the operator both hands to work with. The machine was also bolted firmly in position on a heavy frame, and was thus fitted for practical work. Machine No. 4, on the contrary, is a hand machine requiring the operator's attention and the use of his right hand to turn the former while he was perched upon the pressure lever in an extremely awkward position for work, and the frame of the machine not secured to the floor or otherwise, so as to stand still. Besides this, I regard the machine with a single support as practically the better machine of the two.

Noon recess.

Cross-int. 83. In using machine No. 1 and 2, how great was the pressure of the roll upon the former?

Ans. I don't know; I should think the weights were about 40 lbs. and the arms of the lever about 3½ and 20 inches respectively. I never attempted to determine just what the pressure was. The weight, of course, was on the long arm of the lever.

Cross-int. 84. You speak of the operator having both hands to work with in the use of this machine. What was the need of using both hands, and how were they used?

Ans. I find it a great advantage in doing any mechanical work to have my right hand free to devote to the business, and in this case I held the piece at first by both hands, to prevent the blank being

108 carried by the action of the rollers too far to one side or the other, so as to make too broad or too narrow a flange, or one of irregular width. In some cases also I pressed that portion of the blank which had not yet passed between the rollers closely against the former to increase the curvature.

Cross-int. 85. At what rate did the surface of the former move as compared with the rate at which the former moved in No. 4, when you were operating it by hand?

Ans. As there was no uniformity in the speed of No. 4, I cannot make a comparison of any value. I did not time the speed of the former in machine No. 1 and 2, but should say it was greater than the average speed in machine No. 4.

Cross-int. 86. Very much greater; or about the same; or very little?

Ans. It might have been twice as great.

Cross-int. 87. Did you enter the end of the blank between the rolls when the former was moving at its usual rate?

Ans. Yes.

Cross-int. 88. If you should remove the side rolls from machine No.

4, how would it then correspond with the machine represented in Figures 1, 2, and 3, of the reissue patent?

Ans. I can see no reason why it would not correspond fairly with those figures, except that the former is not rounded at the upper end as shown in Figure 3.

Cross-int. 89. Do you think it would be more efficient and work better without the side rolls than with them?

Ans. I rather think I should prefer to omit the side rolls; or, in other words, to use the machine No. 1 and 2 instead of No. 4.

Cross-int. 90. Why should you prefer to omit the side rolls from machine No. 4, if you were to use that machine?

Ans. I should want the machine so arranged that the blank could be entered endwise, as was always done in machine No. 1 and 2, whether the round former or the heel-shaped former was used. It is not convenient to enter the blank this way in machine No. 4, with the side rolls.

Cross-int. 91. In using machine No. 3, where and how was the blank entered; how many times was it passed through the machine, and at what rate?

109 Ans. In machine No. 3 the blank was entered endwise between the two rollers on the side opposite the lever, the edge of the blank which was to form the flange resting in the groove formed in the base plate. It was passed once only through, the machine being pressed against the convex former by the lever, or the support secured thereon; the crank was turned at the speed of perhaps thirty times a minute.

Cross-int. 92. Was the piece which you call the support pressed against the blank by the lever while the counter was being formed?

Ans. It was.

Cross-int. 93. Does the face of this support conform to the convex roller around its circumference as well as lengthwise?

Ans. It does.

Cross-int. 94. What is the width of the face so far as it conforms to the circumference of the convex roller?

Ans. I think about a quarter of an inch.

Cross-int. 95. You have referred to machine No. 5. State in the same manner how the blank was entered and passed through the machine, how many times and at what rate it was carried through, and what is the shape of the surface opposed to the former, between which and the former the blank was carried?

Ans. I never saw machine No. 5 in operation. The blank can only be entered endwise between the former and one of the circular supports, and after being pressed by them it passes between the former and the concaved stationary support which bridges the space between the two round supports. By these devices the blank is shaped to the former. I should suppose one passage through the machine would be sufficient, and that it could be run at quite high speed. The width of the concave face of the stationary support, I am told, is an inch and a half.

Cross-int. 96. If I understand you, then, there is in this No. 5 machine a support, as you term it, placed opposite the former and between the side rolls, and covering the former in the direction of its circumference about an inch and a half; am I correct?

Ans. Yes.

Cross-int. 97. Will you give me the circumference of the former where its diameter is greatest?

Ans. A little over $6\frac{1}{4}$ inches.

110 Cross-int. 98. Then this concave support surrounds and conforms to the former over about one-fourth of its surface; does it not?

Ans. It does.

Cross-int. 99. Over how much of the surface of the former does the concave surface opposed to it extend in the machine described in Coté reissue No. 2?

Ans. About one-half of it.

Cross-int. 100. Is machine No. 5 so constructed that the concave surface opposed to the former will come into contact with the former when no blank is in the machine, as the rollers do in machine No. 4?

Ans. I think not.

Cross-int. 101. Do you find that the rolls in machine No. 5 can be brought into contact with the former?

Ans. The bearings of the rollers may be adjusted at any desired distance from the former, and I presume they can be brought in contact with it if desired. This may be also the case with the concave support, but none of the supports will come in contact with the former, as I understand it, unless purposely adjusted therefor.

Cross-int. 102. As the machine now stands there is a free passage between the former and the rolls and concave surface opposed to it, is there not?

Ans. I think so.

Cross-int. 103. And through this passage the blank is forced endwise, and in going through is compelled to take the form of that passage, is it not, both in the direction of its length and crosswise?

Ans. Yes.

Cross-int. 104. And the same is true of the Coté machine; is it not?

Ans. Yes.

Cross-int. 105. Could you use formers like those shown in Moffitt's reissue patent, in connection with supports shaped like the stationary supports in machines Nos. 3 and 5?

Ans. I still maintain that the formers referred to in the Moffitt reissue may be circular in cross-sections, and will be so if the counter desired is to have a form corresponding thereto. Such formers are now in machines Nos. 3 and 5, and counters are here produced made upon
111 No. 3. If the question is intended to be limited to formers of the specific shape shown in the drawing, then I answer that a stationary support of the shape shown in machine No. 5 could not be used therewith; one having a comparatively narrow face, like that in machine No. 3, might perhaps be used.

Cross-int. 106. In answer to int. 5, you speak of experimenting on some stock that was too damp, and obtaining materials properly tempered. What do you mean by properly tempered?

Ans. I meant in that connection blanks neither too wet or too dry, but otherwise in proper condition to be worked into counters.

Cross-int. 107. Were the blanks which you used in those experiments as dry as those you have operated with in this cross-examination; that is, as dry as they ordinarily would be under ordinary atmospheric conditions?

Ans. They were not so dry as those produced for experiment on Saturday, but were, as I supposed, cut from sheets of the material exposed to the usual atmospheric conditions.

Cross-int. 108. Do you understand that they were tempered or moistened for the purpose of being subjected to the action of the machines?

Ans. No.

Adjourned, Wednesday, 10 a. m.

BOSTON, *August* 15, 1877.

Direct resumed:

Int. 109. Please refer to your 102d, 103d, and 104th cross-interrogatories and your answers thereto, and compare the machine described in the Moffitt reissue with Defendants' Exhibit C, from the point of view suggested in those answers.

Ans. The similarity between the Moffitt machine and the Coté machine (Exhibit C) pointed out in the questions and answers referred to comprehends the distinguishing difference between those machines and the mechanism employed in the prior moulding process; that is to say, the two machines under comparison are alike in the vital point which distinguishes them from all prior counter machines. That point is just this: In the moulding machines the counter-blanks were shaped by dead pressure in a confined space, while in the Mof-
112 fitt and Coté machines the counter-blank is shaped and set to shape by what Mr. Moffitt has very properly and aptly designated as a live, active, moving pressure; or by the forcing of the blank through a passage between the former and the supporting apparatus, as the cross-interrogatories referred to put it.

In the moulding process the blank is compressed in a space of the counter form. In the Moffitt and Coté machines it is compressed and rubbed in its passage through a space or between two surfaces, which compel it to take the form of that passage, both in the direction of its length and crosswise.

In the Moffitt and Coté machines the blank is forced through this passage endwise by the rotation of the former, which carries the blank forward and subjects it to pressure line by line, as it is brought by the rotation of the former into and carried through the passage between the shaping surfaces.

I have heretofore pointed out this feature as characteristic of the Moffitt invention and referred to various forms in which it is exemplified, and particularly to the Coté machine as a complete embodiment of it; and in comparing the Coté with the machine shown in the Moffitt drawings, Figures 4 and 5, I have pointed out that the concave bed in which the Coté former revolves represents a filling up of the spaces between the supports shown in those drawings. I have had prepared a model illustrating this filling up, in which the rotary former and its supports are made of wood, representing what is in the Moffitt drawings, Figures 4 and 5, except as to the shape of the former, and the space between the supports is filled in with plaster, showing in white the Coté additions, which go to complete the concave bed or to give a continuous surface bearing upon the outside of the blank, instead of the series of lines in the device shown in the Moffitt drawings, Figures 4 and 5. This filling up extends along the end of the former as well as along its sides, or rather the ends of the supports are connected by the filling in of plaster, as well as the other parts of the supports. This model then represents the features of both the Moffitt and Coté devices so far as concerns the two shaping surfaces. (This model is now put in evidence and marked Exhibit Spencer Model, C. F. S., sp'l ex'r.)

113 The cross-interrogatories referred to speak of the passage for the blank between the shaping surfaces as a free passage, by which I understand a passage which does not entirely close after the blank has passed out of it. Some of the Moffitt machines put in as exhibits in this case have a free passage in this sense, all of them I

think except No. 4, and in that machine the passage does not close if the pressure is removed before the blank is taken out and is not again applied before another blank is entered.

Some of the figures in the reissue drawings show this open passage between the former and the supports, particularly the Figures 2 and 5, while the other figures show the roller and former in contact, apparently, showing that this feature is not regarded as of importance in the hand-machine delineated in those drawings. In a hand-machine the operator would invariably leave the former at rest when there was no blank in the machine to be operated upon, and while the blank was under pressure in the machine, it would itself keep the passage open.

No sensible mechanic using any form of the Moffitt machine would permit the former in its rotation to grind upon the supports and deface them or itself, whether specially instructed to that effect in the patent or not. If the Moffitt machine was made in detail as shown in Figure 1 of the reissue drawing, the connecting hinge of the swing-frame E would form a stop to prevent injurious contact of the former and support C, but a skillful mechanic would readily apply a more effective stop than this.

It is nowhere stated in the specification, that I can discover, either that the former shall come in actual contact with the support or that it shall not. The supports are to be "forced up against the material being rolled to shape, and serve to hold it close against the former." The counter-piece is to be squeezed between the shaping surfaces, but there is no statement that those shaping surfaces ever come into contact with each other.

I think, then, a free passage between the former and the support opposed to it is to assume in the machine described in the Moffitt reissue, and the same thing also is true of the Coté machine, Exhibit C.

Int. 110. How does the mouth for the entrance of the counter-blank in Exhibit Spencer Model compare with that in Exhibit C?

114 Ans. In the model and in the exhibit referred to there is the same mouth extending along the side and up at the end of the former, except that in the model there is an open space above the flanged part of the support, extending to the shaft of the former, while in Exhibit C the mouth extends up at the end of the former on one side only of the former, and to an extent covering about three-fourths of the distance from the corner of the former where the flange is turned to the centre of the axis of the shaft of the former. In other words, the bed in which the former revolves is cut away where that portion of the blank which is to form the flange is entered; but the bed is not cut away clear up to the centre of the axis. There is no other difference that I see in the mouths of these two exhibits.

Int. 111. Suppose a machine made specifically as shown in Figures 1, 2, and 3 of the Moffitt reissue; that is, with only one supporting-roll, so that the passage through which the counter-blank is forced by the motion of the former would be such as is shown in Figure 2, but assume that an automatic clamping device is added to that machine and so constructed and operating as to clamp the end of the counter, as soon as it emerges from this passage, close against and hold it close against the former; and state whether this addition would affect the question whether the machine embodied Moffitt's invention or not, and how it would affect it, if at all.

Ans. Such addition would not at all affect the question whether or not the machine embodied the Moffitt invention, in my judgment.

Int. 112. Suppose the supporting device in Exhibit C, was so set in re-

lation to the revolving former that the passage between the two was narrowest along a line near the mouth, this passage extending lengthwise of the revolving former; and state what function, if any, is performed by the other portions of the surface of the supporting device which lie beyond this narrow passage, except to keep the counter-blank close against the former after its passage through this narrow passage.

Ans. I think there is no other function of importance. The blank would be shaped by being drawn in at the mouth forward through the narrow passage referred to, and the action of the remaining portion of the supporting surface would be merely to hold the counter
115 temporarily in the shape given to it in its movement through the narrow passage. There would be some further friction probably upon the outside of the counter, unless the space between the shaping surfaces widened considerably.

Int. 113. Now, suppose a machine specifically like that shown in Figures 1, 2, and 3 of the reissue, but with the addition of a shell, the inner surface of which was smooth and the converse of and conforming to the surface of the former, the distance between the inner surface of the shell and the outer surface of the former being in all places slightly more than the distance between the surface of the former and roll C where they are nearest to each other, the shell covering an inch or so of the periphery of the revolving former, and secured in such relation to the former and the roll C that the end of the counter-blank as it emerged from the passage between the roll C and the former would enter the space between the shell and the former; and state how this addition would affect, if at all, the question whether the machine embodied the Moffitt invention or not.

Ans. Such addition would not in any way affect the question whether or not the machine otherwise embodied the Moffitt invention.

Noon recess.

Cross resumed:

Cross-int. 114. In your answer to int. 112, how much wider did you assume the passage to be where the counter came out from between the two surfaces than at the line near its mouth where it was narrowest; and how must the shell be set to secure the condition which you assumed in your answer?

Ans. I assumed in that answer that but a slight increase in the width of the passage, near the exit, should exist to relieve the two shaping surfaces of their function in forming and setting to shape the counter. If the passage was wider by the sixteenth part of an inch than was necessary to the movement of the compressed and shaped counter, than such wider part of the passage would have little effect other than as a guide. Were it a quarter of an inch wider than the thickness of the counter, it would have no other effect. To secure these conditions the shell would require to be set slightly to one side of a position strictly concentric with the surface of the former.

116 Cross-int. 115. In the 111th interrogatory you were asked to assume the addition of an automatic clamping device to a machine specifically like that shown and described in Figures 1, 2, and 3 of the Moffitt reissue. Will you describe the clamping device which you assumed in your answer to be added to such a machine, and the means by which it should be made to operate?

Ans. I assumed any automatic clamping device, operated by any ap-

propriate means, but adapted to clamp the end of the counter as described in the 111th interrogatory. I did not stop to invent or apply any particular clamping device, since whatever device might be selected there would remain the parts of the machine existing before that addition.

Cross-int. 116. Will you describe some automatic clamping device operated by appropriate means and adapted to clamp the end of a counter as described in the 111th interrogatory?

Ans. A spring clamp might be attached to the rotary former in such a way and position as to seize the end of the counter-blank as it emerges from the narrow passage between the former and the supporting roller, and press it against the surface of the former and hold it snugly in that position as the former revolves. Something analogous to this is shown in Figures 1 and 2 of the drawing Exhibit Spencer No. 6. This latter device is not shown to operate automatically to seize the end of the blank, but might readily be made so.

Cross-int. 117. Can you describe some automatic clamping device and the mechanism for operating it which shall seize the end of the blank and hold it, as it emerges from the passage, in the manner described in the 111th interrogatory?

Adjourned, Thursday, November 16, 10½ a. m.

BOSTON, *November* 16, 1877.

Ans. I can think of no more convenient automatic clamping device for this purpose than the well-known nippers in a cylinder printing-press, which seize the end of the sheet at the proper time and press it closely against the revolving cylinder, while it is being operated upon by the other mechanism of the press. These nippers are operated
117 to seize and release the sheet by springs and a tripping mechanism, and might be applied and operated in a similar manner in counter machines.

Cross-int. 118. What machine did you refer to as the Moffitt machine, at the commencement of your answer to the 109th interrogatory?

Ans. I referred to a machine for forming counters by passing the blank between a rotary former and a suitable support conforming thereto, in the manner described in the reissue patent in suit, and illustrated by Exhibits Machine No. 1 and 2, No. 3, No. 4, No. 5, and Spencer Model.

Cross-int. 119. In your Spencer Model, do the two pieces of wood corresponding to the side rolls of the Moffitt machine, as represented in Figures 4 and 5 of the drawings, have the shape relatively to the former which they are represented to have in those figures?

Ans. Yes. They conform to the former in the direction of their length. I have heretofore referred to the fact that the side rolls are not delineated with strict correctness, if these figures of the drawing alone were to be consulted; but in the light of the specification, and considering their function, and the fact that their position is correctly represented in Spencer Model, and that in the figures referred to the side rolls conform to the former except at their smaller end, I think I may say that they have in the model the shape they are represented to have in those figures. In the particular that I have pointed out, the side rolls in the drawing have not in fact the shape that they are represented in the specification to have.

Cross-int. 120. My question had reference only to Figures 4 and 5. Will you please to answer it directly with reference to those figures

only, and to the actual representation of the shape of the rolls in those figures?

Ans. In Exhibit Spencer Model the imperfection in form of the side rolls, shown in Figures 4 and 5 of the drawings, has not been copied. The side rolls in the model therefore have not, at that part near their small end, the shape which they are represented to have in those figures.

Cross-int. 121. Is the shape of the mouth in your model at the end of the former where the flange is turned affected by the departure in the form of your rolls from that actually represented in Figures 4 and 5 of the drawings?

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Ans. The mouth is not represented at all in Figures 4 and 5; that is, neither of those figures is so drawn as to show the mouth at the flange end. The variation in form referred to in the question would, however, alter the shape of the mouth at the flange end of the roll.

Cross-int. 122. Will you point out all the differences there are, whether you regard them as material or not, between the machine as actually described and represented in the reissue patent and the machine which you have represented in your model; and point out also the differences in the mode described in the reissue patent of using the machine and the mode of using the machine which would be required in a machine constructed according to your model?

Ans. In the first place the frame of this model is a trough open at the ends and the former and its supports are mounted in the sides of the trough, so that they do not have a motion toward and from each other. This motion towards and from each other is unnecessary, because the model has a round former concentric with the support. The parts corresponding to these supporting-rolls are chocked so as not to turn, and between them is a filling of plaster. There is also the variation in the shape of the side rolls referred to in answer to int. 120. This being a model of a part only of a machine, has no pressure mechanism or crank.

I see no difference between the mode of using the machine described in the reissue and that in which a machine constructed as the model indicates would be used. In either case the counter is shaped by the continuous or reciprocating rotation of the former.

Cross-int. 123. Would you, in operating a machine constructed according to the model, introduce the blank and operate upon it in the manner described in your answer to the 30th cross-int. for using machine No. 4?

Ans. No.

Cross-int. 124. Will you then point out the differences in using the two machines in forming counters?

Ans. One method of introducing the blank is that described in my answer to cross-int. 30, and another is, by entering the blank endwise as before described. Either of these methods is proper according to the brief description given in the reissue patent, which merely requires that "the piece of the counter, being properly cut or prepared, is placed on the former;" and in another place "the counter-piece being placed centrally on the former." The endwise introduction of the blank is in as strict accordance with these directions as is the method described in answer to cross-int. 30. In the former case, beginning at the end of the blank, the motion of the former is preferably continuous so as to act upon the blank throughout its entire length, while in the latter, beginning in the middle, the motion is reciprocating, so as to reach and operate upon both ends of the blank. My preference therefore in using a machine constructed like the model

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would be to enter the blank endwise through the mouth which has been referred to, because it is more convenient with such a machine to enter it that way.

Cross-int. 125. Didn't you say in your answer to cross-int. 30 that you found it more convenient to use it the other way?

(Objected to because the record is the best evidence of what the witness did say.)

Ans. I said in answer to int. 30 that I found it more convenient in using machine No. 4 to enter the blank as stated in that answer. There are differences in construction between the model and machine No. 4 which account for this difference in the most convenient mode of entering the blank.

ALBERT H. SPENCER.

Attest: CHAS. F. SLEEPER,
Special Examiner.

120, 121 ADDITIONAL EVIDENCE FOR DEFENDANTS.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

THOMAS H. WAKEFIELD,
Special Examiner.

BOSTON, *Aug.* 30, 1877.

Present, J. E. Maynadier, esq., of counsel for complainant; Chauncey Smith, esq., and T. L. Wakefield, esq., of counsel for defendants.

Deposition of Emery Andrews.

Direct examination by CHAUNCEY SMITH, Esq., of counsel for defendants:

BOSTON, *Aug.* 30, 1877.

Int. 1. State your name, age, residence, and occupation.

Ans. Emery Andrews; age, 42; reside at Kennebunk, Maine, and am a manufacturer.

Int. 2. Whether or not you manufacture counters for shoes from leather-board or other material as a part of your business?

Ans. I do.

Int. 3. How long have you manufactured such counters?

Ans. Since the summer of 1875.

Int. 4. If you use machines in their manufacture state what machines they are.

Ans. John R. Moffitt's patent machines.

Int. 5. Will you state when you first had any communication with Mr. Moffitt about his machines and how it came about that you had any communication with him?

Ans. In 1874 I invented a machine to manufacture counters and on examination as to its patentability I was referred to a patent of
122 Mr. Moffitt's as anticipating my invention. Thereupon I went to Mr. Moffitt and arranged with him to build machines under his patents.

Int. 6. Can you state what patent it was of Mr. Moffitt's to which you were referred?

Ans. No. 127090, dated May 21, 1872.

Int. 7. You said you arranged with Mr. Moffitt to build some machines under his patents; did you build any such machines?

Ans. No.

Int. 8. Did you at any time make any arrangements with Mr. Moffitt to build you any machines to make counters; if so, when was it?

Ans. I did—in the winter of 1874–'5.

Int. 9. If under that arrangement he built any machines for you, state how many and when they were delivered to you.

Ans. The first machine was delivered in March or April of 1875, the second one in May or June of 1875, the third and fourth later in the same year; that was all. The first two were returned to Mr. Moffit, or one of them at least. Whether the other has been returned or not I am not able to say.

Int. 10. Will you describe the first two machines?

Ans. The first machine had a round former in combination with two rolls and a guide, the former and rolls being geared together—being about the same machine as Exhibit Machine No. 5, except that the rolls were not speeded.

The second machine was similar to Exhibit Machine No. 5.

Int. 11. How much did you use these two machines?

Ans. The first one I did not use at all as it wass ent to me, except in experimenting. Before it was returned Mr. Moffitt sent me apparatus to speed the rolls, and after applying the apparatus I made a number of thousand pairs of stiffeners.

The second machine I used longer than I did the first.

Int. 12. What do you mean by speeding the rolls?

Ans. As the machine was first sent to me the rolls were geared to the former, all the gears being of the same size, which drove the former and rolls at the same speed. The apparatus that was sent to me geared the concave rolls so that they run at a greater speed than the former.

123 Int. 13. You speak of experimenting with this machine as it first came to you; what experiments did you make?

Ans. We experimented to get the machine to make stiffenings, and to make them of satisfactory shape.

Int. 14. Was this machine constructed so as to make or attempt to make the flange for the heel-seat?

Ans. Not by the rolls; it was constructed to shape the body of the stiffener by the rolls and to turn the flange by another machine attached to the same frame.

Int. 15. Why did you make the change to which you have referred to speed the rolls?

Ans. To get a satisfactory shape which would be permanent to the body of the counter.

Int. 16. State whether Mr. Moffitt had anything to do personally with making these experiments and this change in the machine?

Ans. He did, something. He came down to my mill once and adjusted and altered the machine, and I have the impression that he did a second time, but I am not sure. I am not sure whether he brought the speeding-up apparatus and put it on or sent it to me to put on myself.

Int. 17. In describing this machine, you spoke of a guide; will you describe this guide? State where it was placed and what it had to do in the operation of the machine.

Ans. It was a piece of metal concave to the shape of the former

placed between the two rolls, and its function was to guide the stiffener from the first to the second roll.

Int. 18. What was the thickness of the space between this guide and the former as compared with the thickness of the material for the counter which passed through the space between the guide and the former?

Ans. It was intended that it should be about the same; it never was less; sometimes it might have been more.

Int. 19. What was the width of this guide in the direction around the former; how much of the former did it cover?

Ans. As near as I can recollect it was about an inch to an inch
124 and a quarter at its greatest breadth, being in shape something like the bowl of a spoon.

Int. 20. Were you, at the time you had this first machine in your possession, acquainted with the Coté machine, so called, and Mr. Coté's patent upon it?

Ans. I was.

Int. 21. Did you have any conversation with Mr. Moffitt about that machine and patent?

Ans. We had at various times.

Int. 22. Do you remember whether anything was said between you about this guide in this first machine and the right to use it in view of the Coté patent?

Ans. We discussed the question whether or not Coté would not claim that it was an infringement on his patent, but we were of the opinion that as we used it simply as a guide he could not reasonably do so.

Int. 23. Did the second machine you had have the rolls speeded similar to the first machine after the change was made?

Ans. It had.

Int. 24. What kind of a guide did this second machine have, and what did it do in the operation of the machine?

Ans. The guides were similar in the first and second machine, and its functions were the same, except that it was so changed in its bearings that we could force it down on the blank and have it rub the counter for the purpose of giving permanency to the shape which the counter received by the operation of the machine.

Int. 25. At whose suggestion, or by whose direction, was this change made, and why was it made?

Ans. I am not sure whether the suggestion first came from Mr. Moffitt or myself, or was the result of our mutual opinions. Mr. Moffitt furnished the apparatus and made the changes. I have already stated that it was to give greater permanency to the set which the counter received by the operation of the machine.

Recess 1.40 to 2.30.

Int. 26. Did you ever bring the piece called the guide in the
125 first machine down so as to bear upon the counter in the manner you have stated you did in the second machine?

Ans. Always after the rolls were speeded, and perhaps before.

Int. 27. State whether or not you succeeded in making good merchantable counters on either of these two machines when you used the guide simply as a guide to direct the counters to the second roll.

Ans. I think not. Certainly I never sold any.

Int. 28. Did you and Mr. Moffitt in connection with the change in the

mode of using the guide have any co'versation about your right to make the change in view of the Coté patent?

Ans. We had.

Int. 29. Will you state what Mr. Moffitt said in respect to that?

Ans. Mr. Moffitt's opinion was that he had a perfect right to use it, because he had a machine which he called his '68 machine, and which is Exhibit Machine No. 3, the product of which he said was patented and which machine had a device similar, he said, to the guide.

Int. 30. After the change was made in the manner of using the guide in these machines was any chance made in the rollers; if so, what was it?

Ans. There was no change made in the rollers of the first two machines that I now remember.

Int. 31. How long did you use the first two machines after the change was made in the manner of using the guide?

Ans. Until he sent me improved machines, which was some two to four months I should say.

Int. 32. Will you explain the alteration that was made in the second machine in order to bring the guide down on to the counter in the manner stated?

Ans. The guide was attached to a bar, I think, and this bar had rubber cushions under it to keep it from the former, and nuts or screws were placed above the bar to screw it down on to the blank, and I believe that springs were interposed between the screws and the bar so that the guide would be held on the piece with a yielding pressure. This was the plan of holding the guide, but I do not now remember the exact shape and position of the pieces which I have mentioned.

126 Int. 33. Were these rubber cushions and springs used before the change was made in the manner of using the guide?

Ans. I think the rubber cushions were used to hold it off from the former, but I think that the springs interposed between the nuts or screws were not used, or, if used, that they were lighter.

Int. 34. How did the last two machines that you obtained correspond with the Exhibit Machine No. 5, to which you have referred?

Ans. They had a larger roll, which was speeded. They had no gears, and the guide or hood, as we called it, had a much stiffer spring than in the first two machines, and there was but one speeded roll instead of two. There was only one roll and former on each of these machines.

Int. 35. When the blank enters these machines, does it enter between the roll and the former or between the guide and the former?

Ans. As I first received them it entered between the roll and the former, as we now use them it enters between the former and the guide; a change having been made by which the guide was placed in front of the roll instead of behind it.

Int. 36. Why did you have only one roll on these machines, instead of two as in the first machines?

Ans. Because one roll did the work as well as two and was more easily adjusted.

Int. 37. What is the width of the guide in these two machines?

Ans. Not much, if any, wider than the first, unless it is the guide which we now use, which I should say was a little wider in proportion to the former than were the first.

Int. 38. After you made the guide press upon the counter, did you find any difficulty in carrying the counter through the machine properly; if so, will you state what, if anything, you did to correct the evil?

Ans. There was difficulty at times in making the former carry the

blank counter. The roll and former and hood required nice adjustment in relation to each other to make the machine work satisfactorily, and after using it in this way for something like a year we toothed the former, I think, at the same time that we placed the guide in front of the roll, which made the machine more satisfactory.

127 Int. 39. To whom do you refer by "we" in your last answer?

Ans. I had in my mind my workmen. I believe as a matter of fact that Mr. Moffitt furnished the parts and my workmen put them on.

Int. 40. State whether you had any conversation with Mr. Moffitt about toothing the former, and whether in connection with it any reference was made to the Coté patent or machine.

Ans. We saw the desirability of having the former toothed from the start; that is, Mr. Moffitt and myself. We did not tooth the former in the start because that was a device of Coté's, and it was our opinion that, although he made no claim upon it, he would be likely in case we adopted it to reissue his patent and claim it. As a substitute for the toothed former we discussed the plan of using a lettered former, putting on the date of the patent or our business card, or using a former with a rubber covering, but the third and fourth machines worked so well in the start that we did not do it. We had no conversation about toothing the former before it was toothed. My attention was called to some stiffenings manufactured by Mr. Sampson, who I knew was using Mr. Moffitt's machines, and these stiffenings had marks of the teeth on them, and I thereupon applied to Mr. Moffitt to have similar formers made for my machines.

Int. 41. If you had any conversation with Mr. Moffitt in relation to the reissue of his patent at or before the time he applied for the reissue in reference especially to the Coté machine and patent, will you state what that conversation was?

Ans. When I first met Mr. Moffitt he was contemplating the reissue of his patent with a view to comme'ce a suit against S. B. Rogers & Co., and we had conversation at various times about the matter. I am not able to give much, if any, of the exact conversation. The general tenor of it was as to the best claims to make.

Int. 42. State whether or not in considering what claims to make reference was made directly to the Coté machine.

Ans. Certainly; I intended to state that in my last answer.

Int. 43. Have you any judgment as to which of the two parts in your machines as now used, which you have designated as the guide and the roll, is most efficient in giving the proper shape to the counter? If so, state what it is.

128 Ans. From experiments which I have recently made I believe that the guide or hood, as I call it, most effective in shaping the blank; in fact, that the roll is entirely superfluous, and worse than superfluous, because it complicates the machines; and after making these experiments to which I have referred I directed my workmen to hereafter use nothing but the hood.

Int. 44. Will you state what these experiments were; and if you have any samples of what you obtained in making these experiments, will you produce them as exhibits?

Ans. These four samples which I now produce I made on the machine just as my workmen have used it heretofore.

(Samples produced are offered in evidence by counsel for defendants, and the same, 4 pieces, are marked Def'ts' Exhibit M., T. H. W., examiner.)

After making the samples marked Exhibit M I removed the hood from the machine and screwed the speeded roll as hard onto the former as I could get it; I then run other counters through the machine, and three of these counters I now produce.

(Counters here produced by the witness are offered in evidence by counsel for defendants, and the same are marked Def'ts' Exhibit O, T. H. W., examiner.)

I then sharpened the teeth on the former, replaced the hood, and removed the roll, and run through other stiffenings, using the former and hood alone, and of such stiffenings I now produce six.

(Counters here produced by the witness offered in evidence by counsel for defendants, and the same are marked Def'ts' Exhibit P, T. H. W., examiner.)

Int. 45. State whether or not Exhibit M represents fairly the work produced by your workmen by using both the hood and the roll.

Ans. They are the same thing that they make except that they have no notch in the centre of the straight edge, which should be put in before they are run through the rolls. The notch is placed there to facilitate placing them centrally upon the former on which they are flanged; it would make no difference in the working of the rolls whether they were notched or not.

129 Int. 46. Do the three exhibits marked O represent fairly all that you produced by the use of the roll alone?

(Objected to as wholly immaterial.)

Ans. They do; all that I run with the two rolls; that is, the roll and the former were like the two which I have marked with my initial E, except the one which I have marked A. Those marked E are made from our cheap board, which is softer than the one marked A, and those are better for that reason than the one marked A.

Int. 47. Why did you sharpen the teeth of the former before operating the machine with the hood alone without the aid of the roll?

Ans. Because I found that the former would not carry the blank with it after I had screwed down the head where I wanted it.

Int. 48. State whether or not you consider the product of the machine better when worked with the hood alone than when worked with both the hood and the roll.

Ans. The samples marked Exhibit P are better than those marked Exhibit M, but had I replaced the roll after sharpening the teeth on the former, I have no doubt that I could then have made stiffenings as good as those marked Exhibit P. I do not think that the speeded roll is any objection to the machine further than the complication it makes.

Int. 49. Will you look at the counters marked Compl't's Exhibit Spencer No. 1 and Compl't's Exhibit Hughes No. 6 and state whether in your judgment they are good merchantable counters, or such as could be used to advantage in the manufacture of shoes?

Ans. My opinion of those stiffenings, founded on the experience I have had with my customers, is that they are not merchantable. I have no customers that would use such counters. I say this because I have had many stiffenings returned to me which I consider much better than the exhibits referred to. Three counters which I now produce are fair samples of one barrel which I have had returned to me from two different customers, and these three counters are, in my opinion, far superior to the exhibits referred to in the question.

(The samples produced are offered in evidence by counsel for de-

fendants, and the same are marked Def'ts' Exhibit Q., T. H. W., examiner.)

Int. 50. What would be the value of counters like those re-
130 ferred to in the last question as compared with the value of the stock before it was subjected to the operation of the machine by which the counters were produced?

Ans. I have no customers to whom they would have increased value. In fact I doubt if my customers would use them at any price. The samples Exhibit Q I offered twenty-five per cent. under my regular price, and they were returned to me, my customer saying, as I have it from my man who delivered the stiffenings, and returned them, that he would not use them anyway.

Int. 51. Will you point out the defects of the counters referred to in my previous questions?

Ans. One defect is that they have no well-defined heel-seat; the second defect is that the top of the counter is too flaring, and consequently they would stick out and show through the outside of the shoe, and these are the two principal things for which we shape counters.

Int. 52. State whether the notching of the blanks along that part which forms the heel-seat is an advantage or a disadvantage in the manufacture of counters.

Ans. Both, it facilitates under some circumstances the turning of the heel-seat, but there is always more or less liability to get the circle at the angle which the heel-seat forms with the upright part of the counter untrue, there being danger of its being triangular, instead of a true circle as it should be.

Int. 53. And do you find this last difficulty exhibited in any degree in the counters referred to in my previous questions?

Ans. I do in such as have the angle which I have spoken of defined, and I think all would have it if said angle were well defined at the point where the heel-seat comes to an approximate right angle with the upright part, but I cannot discover either on the inside or the outside of the exhibits referred to just where that angle was intended to be.

Int. 54. Will you look at the several exhibits of the complainant marked respectively Hughes No. 1, No. 2, No. 4, and No. 4, and Spencer No. 2, and give your judgment as to their merchantable character?

Ans. Exhibit Hughes No. 1 would be objectionable to my customers on account of the way in which the heel-seat is turned. On
131 most of them, in fact on all of them that I have examined, being six, the angle which the heel-seat forms with the upright part of the counters is not well defined around the whole heel-seat, and the upright part of the counter is too bellying, as we term it. Counters can now be made so perfectly that customers will not tolerate any imperfections.

Exhibit Hughes No. 2 are rather inferior in the respects which I have named. I notice that the blanks at the point where they entered the rolls upon which I suppose they were formed is partially crushed, and also at the opposite end, which would be an objection to me. I have no customers who use a stiffening so low in proportion to the length as these.

Hughes No. 3 are quite similar to No. 2. Hughes No. 4 are not much different from the others; they are a little smoother finished than No. 3.

Spencer No. 2, I think, are worthless; one of them, the largest, mainly

on account of the imperfect heel-seat, and the smaller on account of its flaring top, which would prevent its coming up to the last properly; also on account of its imperfect heel-seat.

Adjourned to Aug. 31st, at 10 a. m.

Cross-examination by J. E. MAYNADIER, Esq., of counsel for complainants:

AUG. 31ST, 1877.

Cross-int. 55. How many styles of counters have you knowledge of, and about how many sizes in each style?

Ans. There is the A, B, C, and D. I think there are from four to seven sizes of each style. Besides these there are boot-counters and other styles of counters for particular styles of boots, shoes, and slippers.

Cross-int. 56. What counters do you deal in besides those made on Moffitt's machine?

Ans. Flat stiffeners of various styles.

Cross-int. 57. Don't you also sell large numbers of counters made by the Mousan Manufacturing Co.?

Ans. Those are included in the previous answer.

Cross-int. 58. What are your business relations briefly with these defendants?

132 Ans. I have no personal business relations with them.

Cross-int. 59. Did not your firm, E. Andrews & Co., of Welchville, Maine, and their firm, S. B. Rogers & Co., of South Sudbury, Mass., sell out to the Mousan Manufacturing Co., and are you not president and Mr. Moore, one of the defendants, treasurer of that company?

Ans. I am president of the Mousan Manufacturing Co.; Mr. Moore is treasurer. The Mousan Manufacturing Co. have not bought out S. B. Rogers & Co.; neither have they bought out E. Andrews & Co. They have bought stock of E. Andrews & Co., and have bought various leather-board machines of S. B. Rogers & Co.

Cross-int. 60. Are you not interested as stockholder in the Mousan Manufacturing Co., or in some other way in the business carried on by these defendants in the counter business?

Ans. I am a stockholder in the Mousan Manufacturing Co., and the defendants are selling agents of this company, and the Mousan Manufacturing Co. and the defendants have intimate business relations.

Cross-int. 61. Are not the Coté patents and other patents relating to the manufacture of counters owned by the Mousan Manufacturing Co. or by you and the defendants jointly?

Ans. Neither the Mousan Manufacturing Co. nor myself have any ownership in the Coté patents, or interest in them, save such interest as we have by reason of the product of our mill being manufactured on said patent machines.

Cross-int. 62. Please answer the same question substituting the word controlled for the word owned.

Ans. We have no control of them. I don't know what other patents are referred to in the question. I own patents; so do the Mousan Manufacturing Co.

Cross-int. 63. Your first contract with Mr. Moffitt in relation to the patent now in suit bears date Nov. 17, 1874, doesn't it? Please refresh

your recollection before answering by looking at the contract now handed to you.

Ans. It so appears.

Cross-int. 64. How long after that time was it before you went into intimate businesss relations with the defendants?

133 Ans. I became acquainted with the defendants about the first of January, 1875, and have transacted more or less business with them since then.

Cross-int. 65. About how long after Nov. 17, 1874, did you and they commence the negotiations which resulted in forming the Mousan Manufacturing Co.?

Ans. Something over a year, if I remember rightly.

Cross-int. 66. Is not the following a copy of letter-head used by you: "Office of Mousan Manufacturing Company, manufacturers of fine leather boards and patent moulded stiffening. All bills and correspondence should be directed to Kennebunk, Me. Mousan Mills, Kennebunk, Me. Little Androscoggin Mills, Welchville, Me. Successors to E. Andrews & Co., Welchville, Me., and S. B. Rogers & Co., So. Sudbury, Mass. Emery Andrews, pres.; Stephen Moore, treas.?"

Ans. Yes.

Cross-int. 67. Are not the Mousan Company licensed under the Coté patent to make and sell counters?

Ans. They are not.

Cross-int. 68. What are these patent moulded stiffenings that they deal in?

Ans. The term patented moulded stiffenings is designed to direct the attention of the trade to the Coté stiffenings which S. B. Rogers & Co. sell, and to the Moffit stiffenings which the Mousan Company sell.

Cross-int. 69. What counter machines are used at Kennebunk and Welchville?

Ans. At Welchville, the Moffit machines; at Kennebunk, a machine which has not yet been named.

Cross-int. 70. What does that expression "successors to E. Andrews & Co. and S. B. Rogers & Co." mean in your letter-head?

Ans. That the Mousan Manufacturing Co. manufacture leather-board in place of E. Andrews & Co. and S. B. Rogers & Co., S. B. Rogers & Co.'s mill having been burned and E. Andrews & Co. having leased their mill to said Mousan Company.

Cross-int. 71. Are not all the stiffenings made by S. B. Rogers
134 & Co. consigned to or otherwise accounted for to the Mousan Manufacturing Co.?

Ans. S. B. Rogers & Co. do not consign any stiffenings to the Mousan Co. The Mousan Co. cut and prepare stiffenings for the Coté machine and sell them to the South Sudbury mill at a certain price. They cut flat stiffenings, which they consign to S. B. Rogers & Co.

Cross-int. 72. The stiffenings made at Kennebunk and Welchville are manufactured by the Mousan Manufacturing Co., are they not?

Ans. Yes.

Cross-int. 73. The Mousan Co. also have an interest in all the finished stiffenings made by the South Sudbury mill and consigned to S. B. Rogers & Co., have they not?

Ans. Yes.

Cross-int. 74. Did you assign your license from Mr. Moffitt to the Mousan Co., or merely furnish machines to that company, which they use as your sub-licensee?

Ans. Neither.

Cross-int. 75. Who keeps account and pays Mr. Moffitt tariff for stiffeners made by the Mousan Co. on the Moffitt machines?

Ans. I do.

Cross-int. 76. The tariff is thirty cents for every hundred pairs, with a discount of fifty per cent., conditioned on keeping acccounts, prompt payment, etc., is it not?

Ans. That question is similar to a clause in the license. What we pay is fifteen cents per hundred pairs; there is something in the license about thirty cents. I don't remember exactly what the conditions are.

Cross-int. 72. What is the matter with the stiffenings marked Exhibit Q, in your opinion?

Ans. The triangular shape caused by the three notches.

Cross-int. 78. I wish you would explain what you mean by toothing the former?

Ans. Putting teeth on it.

Cross-int. 79. Should you say that the marks on the inside of the stiffeners marked Exhibit Hughes No. 4 were caused by a toothed former?

135 Ans. Evidently.

Cross-int. 80. I see that the stiffeners produced by you and marked Exhibit P have lines across them made by grooves which run lengthwise with the former; who cut these grooves in the former?

Ans. I don't know. I think the machinist or some of my workmen at Welchville.

Cross-int. 81. Under your direction, I suppose?

Ans. No.

Cross-int 82. Under whose direction?

Ans. I don't know. I found the former grooved on one of my visits to the mill, but asked no questions as to who did it.

Cross-int. 83. Do you keep an account of and pay tariff on the stiffeners made on that new machine at Kennebunk?

Ans. We have accounts of all stiffenings made on it. We have paid no tariffs nor agreed to pay any.

Cross-int. 84. Have any stiffeners made on that machine been sold by you; if so, how long have you been selling them, as nearly as you can now state?

Ans. The company have not sold any. They consigned some during the last month.

Cross-int. 85. Have the styles of counters been invariable since your first connection with the counter business, or have they changed from time to time?

Ans. There have been no changes in the dies for cutting the blanks, except in discarding three notches and using one. We have endeavored to improve in the shape of the formed stiffeners by various improvements in Moffitt's machines.

Cross-int. 86. You are well aware as a matter of trade knowledge that very large quantities of stiffeners are sold with three notches, are you not?

Ans. I should say so.

Cross-int. 87. In your fifth answer you refer to a machine and to Mr. Moffitt's patent anticipating it, please look at the patent now shown you, No. 147587, dated Feb. 17, 1874, granted to you, and state whether that describes the machine you referred to in that answer.

Ans. It does not.

Cross-int. 88. Doesn't the patent now shown you marked Ex-

136 hibit Moffitt No. 2 describe the machines referred to in your direct as machines three and four?

Ans. Yes.

Cross-int. 89. Are you not now, and have you not been for some months, in controversy with Mr. Moffitt as to the payment for these machines, and do you not differ widely as to the price agreed to be paid for them?

Ans. We have disagreed as to the price that should be paid for them.

Cross-int. 90. Did you not agree to pay the same price for them that Mr. Sampson paid for his, namely, $800 apiece or $1,600 for the two; if not, what do you say was the agreed price?

Ans. I did not agree to pay the same price that Mr. Sampson paid. On the contrary it was expressly understood that I should not pay as much for them as Mr. Sampson did. The bargain with Mr. Moffitt, so far as there was any bargain, in regard to price was that I should have the machines at a fair price, and as a criterion or basis to fix their price there was an informal agreement that I should pay him the same price that I could get them built for in Maine.

Cross-int. 91. Did you ever manufacture boots or shoes?

Ans. No.

Cross-int. 92. If a counter fits properly to the last with the insole upon it and presents a sightly appearance when the shoe is finished, and is made of suitable material, does it not answer all the wants of the trade?

Ans. I don't see what more could be asked for a counter, but I suppose there would be a variety of opinions as to what was a good fitting counter and proper material.

Direct examination resumed:

Int. 93. Who had the charge of running and operating your Moffitt machines since you had them in use?

Ans. Until quite recently E. R. Moffitt, son of Mr. J. R. Moffitt.

Int. 94. Who had charge of them when the grooves were made in the former to which your attention has been called?

Ans. I do not remember whether the grooves were made before or since Moffitt left. They were put in as a substitute for the round
137 teeth which Mr. Moffitt put into the formers because they were more efficient.

Cross-examination resumed:

Cross-int. 95. When you speak of round teeth you mean circular cavities such as would be made by round centre-punch, such as those on the round former in Exhibit Machine Nos. 1 and 2?

Ans. The cavity that would be made by a centre-punch and the burr which it would raise.

E. ANDREWS.

Attest: THOMAS H. WAKEFIELD,
Special Examiner.

Deposition of Hervey Waters.

BOSTON, *Aug.* 31, 1877.

Direct examination by CHAUNCEY SMITH, Esq., of counsel for defendants:

Int. 1. What is your name, and have you been previously examined in this case?

Ans. Hervey Waters. Yes.

Int. 2. Have you examined an exhibit produced by the complainant in this case marked Machine No. 4; if so, will you state how you find it corresponds with or differs from the machine described in Moffitt's reissued patent on which this suit is brought?

Ans. I have examined No. 4, and it is substantially like the machine described in the patent, with the following exception, the two inside rolls, which are analogous to C^1 and C^2, are made to correspond in the contour of their length with the former A in the patent, which is not the case with the rollers described in the patent and represented in Fig. 5 of the drawings. They are cut proportionally a little shorter at that end towards the heel-seat of the stiffener, and then brought a little closer in than they could be if they were not cut shorter to the axis of the main outer roller represented at C—being in this respect neither like the patent nor like the duplicate model from the Patent Office, to which I referred in my former deposition, but rather more like the model than what is described in the patent.

138 Machine No. 4 is organized with levers for forcing the side rolls into action with the former, which are not shown in the patent or in the model.

Moreover, the former in machine No. 4, answering to the former A in the patent, has a corrugated surface serving to prevent the slipping of the leather or other material upon the former, which is not found described in the patent upon which this suit is brought.

Int. 3. In your former deposition, in answer to int. 5, you gave the results of your trial of the machine constructed strictly in accordance with the description in the specification of Moffitt's reissued patent and gave your judgment as to the practical value of the machine. Will you look at the exhibits marked Spencer No. 1 and Hughes No. 6, produced by Mr. Spencer and Mr. Hughes to exhibit the results which they obtained upon machine No. 4, and also at the Exhibits K and L, made by Mr. Spencer upon machine No. 4, and state how the results obtained by these gentlemen correspond with the results you obtained, stated in your answer referred, and how your judgment of the practical value of the machine described in the reissued patent is affected by the results obtained by Mr. Spencer and Mr. Hughes upon machine No. 4.?

Ans. The results obtained by Mr. Spencer and by Mr. Hughes with machine No. 4 have not changed my mind as to the practical value of machine described in the patent, nor have they convinced me that the machine No. 4 has any practical value as it stands.

The stiffeners marked Hughes No. 6 look rather more like heel-stiffeners than the specimens did which I got out of the Moffitt machine, but, as well as I can judge, they appear to be good for nothing for the purpose of building into a shoe without going through the operation of lasting the stiffeners as they are built into a shoe. They don't appear to me to have been enhanced in value by the operation of the machine for the purposes of building into a shoe.

I have said that these stiffeners look more like stiffeners than the specimens which I got out, but I notice that they have all been cut or notched out in that portion which answers to the heel-seat, and this is a proceeding not mentioned in the patent, and it is only by this notching out that they have been got to resemble heel-stiffeners pretty considerably.

139 The specimens represented by the Defendant's Exhibits K and L show what the machine is capable of doing without such notching out, and these last mentioned specimens do not much resem-

ble good heel-stiffeners, such as can be built into a shoe without lasting, the same as they are built in.

The specimens Exhibits Spencer No. 1 resemble the Hughes specimens of which I have spoken, but are rather worse than the Hughes specimens.

Int. 4. How do these stiffeners produced by Mr. Spencer and Hughes correspond with the stiffener represented in Fig. 6 of the reissued patent as the thing which could be made upon the machine described in the patent?

Ans. They don't correspond at all. The stiffener represented at Fig. 6 is, according to the patent inquired of, a "perfect ready-made shaped counter," but these exhibits are not—they are not ready-made to shape, nor are they perfect. Whenever they are built, if they are ever built into a shoe, they will have to be reshaped in the building.

Int. 5. If you have examined an exhibit produced by the complainant marked Machine No. 1 and 2, will you state how it corresponds with or differs from the machine described in the reissued patent, and in this connection will you refer to the manner of using that machine described by Mr. Spencer in his answer to int. 6 and cross-int. 78, and state whether or not the mode he describes of using that machine is the proper mode of using the machine as described in the reissued patent?

Ans. This question, as I understand it, covers four different machines, one of them being a machine organized with the former represented by the exhibit marked Complainant's Exhibit Heel Shaped Former for Machines Nos. 1 and 2.

This former in one organization of the machine being made to work in connection with a roller answering somewhat nearly to the roller C described in the reissue upon which this suit is brought. This machine so organized corresponds more nearly to the patented machine than either of the others, but it does not correspond with the machine described in the patent in all essential particulars.

It will be seen that this heel-shaped former is corrugated upon its surface at that portion where the former is largest in diameter so as to take hold of the leather or other material; there is no description of any such corrugation in the patent.

It will be seen that this former is not corrugated in its smallest part, and that it appears to be because it was intended that there it should not take hold of the leather.

There is in the organization of this machine now under consideration, and upon the shaft which carries the roller working against this former, a supplemental roller which works upon the small end of the former, where its track may be seen upon inspection. There is no such supplemental roller in the machine described in the patent, nor any equivalent for it.

The frame of this machine now under consideration is differently constructed from the machine described in the patent, and appears to me to have been constructed with a view to procuring a much stronger end-pressure upon the rolls than could be done by the machine described in the patent or with the machine Exhibit Machine No. 4, which machine, with the two side rolls removed, ought to be and would be substantially like this particular machine inquired of, if this particular machine represents the patent, because if the side rolls were taken out of machine No. 4 it should represent one of the alternative machines described in the patent, and there are only two described there; and machine No. 4 with the side rolls removed would answer to the

alternative machine described in the patent if the corrugations were not upon the former, and if the levers were removed from the machine and the weights applied directly to the roller supports the same as in Exhibit A machine; but if the particular machine inquired of had the corrugations upon the former removed, then it would not be like machine No. 4 with the corrugations and side rolls removed, and therefore it is not like the machine described in the patent.

Moreover, in this reissue upon which this suit is brought the instructions in the patent are that the outside rollers shall correspond with the former in the contour of their length. Whether this heel-shaped former does, when in the machine, correspond with the roller which works against it I am unable to say, because the former is not in its place in the machine.

141 Another of the machines inquired of is, as I understand it, substantially like the preceding one described, with this material difference, the roller working in connection with the former being, as I understand it, the same roller as in the preceding machine, and subject to the same questions as to accuracy of form, has upon its shaft a driving-pulley with a belt working on it so as to give a smart rubbing action of the roller upon the leather or other material as it is held against such action by the corrugations upon the former.

This is an essentially different machine from any machine described in the patent.

A third machine inquired of is, as I understand it, a machine which has no former proper, but has two rollers working together, both concentric, one corrugated, which one is in the contour of its length substantially the same as Complainant's Exhibit Heel-Shaped Former, and otherwise differing from the machine described in the patent, as I said the first described did, and it also differs from the patent from the fact that the rollers in the contour of their length do not correspond in form, but they are so shaped in relation to each other as to hold the leather or other material together between them when of uniform thickness at the largest part of the corrugated roller, answering in the contour of its length to the largest part of the former in the first described machine; so this machine now under consideration is clearly different from any machine described in the patent.

This last described machine has, as I said before, no former proper, and without such former, is, it appears to me, that if everything else was equal to the machine described in the patent, it would still be a different machine, because if the machine had all the qualifications necessary for forming the leather or other material down to and upon the corrugated roller it would not then be the machine described in the patent, because it would not shape a heel-stiffener such as the patent says the machine will shape, and such as is represented at Fig. 6 of the drawings, which the patent says is "a shaped stiffener for a boot or shoe heel."

The fourth machine inquired of is like the last described, with the exception that the outer roller has upon its shaft a pulley driven by a belt so as to give a smart rubbing action of the smooth roller upon the leather or other material as it is held by the corrugations upon

142 the other roller. There is no such machine as this described in the patent.

The manner of using all these machines last above described is and must be different from the manner of using the machines described in the patent.

Mr. Spencer, in his testimony, in describing the use of machine No.

4, describes the manner of using that machine described in the patent, I believe, substantially, but the last four machines described are so organized that they can't be used in that way.

If the side rolls were taken off the machine No. 4, then it might be used in the way described in the patent, and therefore the machine No. 4, with the side rolls removed, is not like the last two machines above described, if for no other reason, and I have already said it was not like the other two.

Int. 6. Does the construction of the rolls so that they shall not conform precisely, but shall bite the material harder at one point than at other points, affect the manner in which the material would be carried through the rolls or the facility with which it would be carried through; if so, how does it affect them?

Ans. Certainly it does. It is obvious that the rate of movement of the leather between two rolls when one is corrugated and the other is not will be controlled by the corrugated roller. Here, if one part of that corrugated roller have a diameter of two inches and another part a diameter of one inch, the rate of movement of one part of the leather where it is acted upon by the two-inch portion of the roller will be double the rate of movement of that part where it is acted upon by the one-inch part of the corrugated roller. This is on condition that there is no slipping of the leather upon the corrugated roller, which would be likely to be the case if the rollers pinched the leather everywhere uniformly and pinched it hard enough. Now it is obvious that under these conditions a plain sheet of leather could not be carried through between such rollers without wrinkling the same so that some portions of the leather would have to be stretched severely or lapped over the other portions, and it is doubtful whether it could be got through at all without disintegrating the leather or other material, but if the rolls held tightest at the largest part then
143 the leather might be carried through over the smallest part of a corrugated roller faster than was due to the motion of the smallest part, and thereby relieve the strain upon the leather, so that it could be got through under great pressure without injuring its texture materially. Now, if in addition to this the corrugations be removed from the small part of the roller, then in consequence of both these differences very different results will be reached.

Adjourned to Sept. 1st, at 10.30 a. m.

SEPT. 1, 1877.

Int. 7. If you have examined the Complainant's Exhibit Machine No. 3, will you explain how it corresponds with the machine described in the reissued patent in its construction and mode of operation, and what, if anything, it contains not described in that patent?

Ans. It doesn't correspond at all with the machine described in the patent in its construction and mode of operation.

The machine described in the patent contains a former upon which a heel-stiffener is to be formed corresponding to the shape of said former, and working in connection with that former are three rollers to make the material for the stiffener to conform to the former by passing the material for the stiffener between the three rolls and former; this is one modification of the machine described in the patent. The other is by using only one roller in combination with the former to accomplish the same purpose.

The machine No. 3 has two rollers geared together, as well as I re-

member, and also made to press together, so as to bite leather or other material between them, thus serving as feed-rollers to drive forward the material against a stationary surface, which surface can be brought to press against the material upon one of the feed-rollers for the purpose of shaping the material in the direction of the length of the roller and also in the direction of the circumference of the roller. If I remember this machine correctly, and I think I do, there are two stationary surfaces upon the piece which works for that purpose, one surface fitting one roller and the other surface fitting the other roller, so that such shaping as the machine can do can be practiced upon either roller, which rollers are in their longitudinal contour the converse of each other.

144 There is in connection with one of the rollers a stationary surface for working against a portion of the end of that roller, so as to form a flange which may correspond somewhat nearly to the heel-seat upon a heel-stiffener.

Now, in considering this machine No. 3, it should be understood that the function of the two rolls working together is not to shape the work between them to any considerable extent, but it is mainly to drive forward the piece, so that it shall be forced to pass through between the stationary piece and the roller where the forming is mainly done; while in the machine described in the patent no forming can be done by the machine except by the rollers themselves.

If the stationary piece or pieces were taken off machine No. 3 then the machine would not be much unlike one of the four modifications of the machines Nos. 1 and 2.

Int. 8. If you have also examined Complainant's Exhibit Machine No. 5, will you explain how it corresponds with or differs from the machine described in the reissued patent, and what are the sufficient elements for accomplishing the work the machine is capable of doing?

Ans. This No. 5 machine is like the No. 3 machine in having a pair of feed-rollers to drive forward the work between a stationary surface and one of the rollers, the stationary surface coming round upon the end of the roller as well as upon the side in the direction of the length of the rollers and covering about one-fourth of the circumference of the roller in the direction of its circumference, thus forming a matrix or mould upon one of the rollers after the manner of the machine described in the Coté patent, according to which the defendant's machine is made which is in this case, and which, it is alleged, infringes the machine described in the reissue.

I have already said in this case that the mode of operation of the defendants' machine was entirely different from the mode of operation of the machine described in the reissue, and as this No. 5 machine works substantially like the defendants' machine its mode of operation is entirely different from that machine described in the reissue.

I have said that in this No. 5 machine there were two feed-rollers, one of them serving another function in combination with the stationary matrix or mould, while there is but one roller in the defendants' machine working in combination with a similar matrix, but if

145 one of the feed-rollers, not the one working in combination with the matrix but the other one, be taken out of the machine No. 5 and the other roller be corrugated as is done to the roller in the defendants' machine, such corrugation of the roller will be the equivalent of the other roller removed, because it will enable that roller acting in combination with the matrix to drive forward the work through between

it and the matrix, and accomplish the shaping full as well and perhaps a little better than with the two feed-rollers.

Adjourned to Thursday, Sept. 6th, at 11.30 a. m.

THURSDAY, *Sept.* 6, 1877.

Cross-examination by J. E. MAYNADIER, Esq., of counsel for complainant:

Cross-int. 9. You lay considerable stress upon the fact that the former is roughened in some of the machines produced by the complainant; have you any doubt whatever that the counter-piece is described in both the original and reissue as being shaped over, held up to, and travelling with the former?

Ans. No, I think the patents so describe the operation of the machine, but I hav'n't seen the machines so operate in and of itself, nor do I think it will so operate per se.

Cross-int. 10. It is plain to you, isn't it, that this roughening of the former is not in conflict at all with anything found in the patents?

Ans. I don't know that it is in conflict with the patent—the patent doesn't say anything about it, but if it is a requisite for the machine it should say something about it. It certainly is not requisite for the purposes of forming the inside of the stiffener, because it is not requisite that stiffeners should have this corrugation inside of them, which is produced by the corrugations upon the former.

Cross-int. 11. Do you know or have you been informed as to the effect of this corrugation upon the value of the stiffenings?

Ans. I don't know that it enhances their value.

Cross-int. 12. Are you not pretty well assured that it diminishes their value?

Ans. I don't know whether it does or does not. I don't think that it is very important, anyway, so far as the stiffeners themselves are concerned.

146 Cross-int. 13. You have no knowledge whatever, have you, as to the many changes of styles which have taken place in stiffeners during the last five years?

Ans. I am not quite prepared to say that I have no knowledge. There may be many minor changes of style in stiffeners, but I suppose that they must always be made substantially to conform to the shape of the human heel, and that doesn't change much in five years if Darwinism is true, and if it isn't true, it changes still less.

Cross-int. 14. Don't you think that the shape of the last has more to do with the shape of the stiffener than that of the human heel has to do with the shape of the stiffener, and do you know anything whatever as to what changes have been made in the style of the heel part of lasts during the last five years?

Ans. Yes, directly I think the last has more to do with the stiffener—that is to say, I think the specific form of the former should be such as to produce a stiffener that will fit the last, but then the last cannot depart very far from the shape of the human heel, and consequently the former cannot.

Fashion is a great tyrant, and people will submit to a good deal of inconvenience to follow it, and I suppose this has been as true for the last five years as for the last five hundred years, but nature is a greater tyrant than fashion, and nature produces the shape of the human heels, and the lasts have to be shaped substantially like them, or else the shoes made on them cannot be worn.

Cross-int. 15. It seems to me in your answer to int. 3 you expressed certain opinions which nothing in your training or your experience justified you in expressing; that is to say, that you testified as an expert in regard to the stiffeners marked Hughes No. 6 and Spencer No. 1 without being at all qualified so to do; and I now wish to ask you first whether you believe yourself to be qualified or not; and, if so, why you believe it?

Ans. In my answer to the 3d direct int. in this deposition I stated as follows, among other things: "But as well as I can judge they appear to be good for nothing for the purpose of building into a shoe without going through the operation of lasting the stiffeners as they are built into a shoe." Now, I think I am qualified to make this statement with the knowledge which I have of shoemaking in general;
147 and I think you have yourself assumed that I am so qualified in the question last preceding this last, where you say, "Don't you think that the shape of the last has more to do with the shape of the stiffener than that of the human heel has to do," etc.

It is just upon this point that much turns in this matter, in my judgment, and I think I know that a heel-stiffener is no heel-stiffener for any valuable purpose unless it will substantially fit the last upon which the shoe is to be built. What I mean to say is that a mere approximate forming of the stiffener, if that approximate forming be accompanied by such cutting of the stock as is shown in Exhibit Hughes No. 6, does not give any enhanced value to the stock for such stiffeners in the condition in which Hughes took it, as I understand it, and I think I know that the same is true of the stiffeners Exhibit Spencer No. 1.

Cross-int. 16. Do you mean that these stiffeners Exhibits Hughes No. 6 and Spencer No. 1 are inferior to what would now pass as fair stiffeners, or that they are inferior to what would have passed as fair stiffeners in 1872? In the course of your answer, state the difference, so far as you have any knowledge of it, between what would have passed in 1872 as a fair stiffener and what would now be ranked as such.

Ans. I mean more especially at the present time, and I cannot say that I have a good knowledge of what was required in 1872. I remember of having my attention called to the subject of stiffeners some years ago, I think in 1873, and according to my best recollection the stiffeners which I then saw were greatly superior in shape to these stiffeners Hughes No. 6 and Spencer No. 1.

Cross-int. 17. In your answer to int. 5 you point out a good many differences between the four machines therein referred to and the machine described in the reissued patent; please state whether either of these machines, and, if so, which, does not embody the whole of the invention described in the reissued patent.

Ans. Neither of the machines inquired of embody the whole of the invention described in the reissue.

In my answer to int. 5 I said that the machines which I first described came nearer to the patent than either of the others, but
148 this machine does not contain all that is called for by the patent. The reissue upon which this suit is brought reads as follows:

"My rolling action operates upon the material being formed in a manner quite different from a mere squeezing and crimping action. By my method of treatment the whole surface is rolled, and consequently as nearly as may be equally treated, and the particles of the blank are not simply pressed by a pressure in only one or two lines of direction, whereby a part of the stock shall be greatly compressed and the greater

portion of it compressed but little, if any, but, on the contrary, the rollers act on all parts coming between their peripheries, and in addition giving a rubbing and drawing action upon the heel-seat or flange and around the angular curve which it makes with the body of the counter."

The machine under consideration does not act in this way. The compression of the material between the former and the roller in this machine is much greater at the swell of the heel than it is at the small part of the heel above the swell, towards the ancle, and this is because the rollers do not correspond in form in their longitudinal contour, as I have before stated in this deposition.

Going now to the second machine referred to in answer to int. 5, I find it without this feature of the contrivance described in the reissue, the same as the first one. In making this answer I take for granted what the counsel for the complainant says, which is that the former marked Complainant's Exhibit Heel-Shape Former bears the same relation in its longitudinal contour to the roller which works in connection with the former that the roller which is now in place of the former in the machine bears to the roller working with it in that machine.

Going to the third machine referred to in the answer I find it contains no former at all such as is described in the patent, and the same is true of the fourth machine referred to in the answer. Moreover, the rollers such as they are in the last two mentioned machines do not correspond in their longitudinal contour, but bear hardest at or about the swell of the heel, or where the heel should be if the former was in the machine. In making this answer I make no reference to what the machines contained over and above what is contained in the patent, because I am limited by the question as I understand it.

149 Cross-int. 18. You did not understand my question in the way I intended you should, and therefore I will repeat it in different words: Suppose the defendants in this suit used a machine precisely the same as the one first described by you in your answer to int. 5, and you were acting for them as expert, could you testify that that machine did not embody substantially the invention described in the reissued patent?

Ans. The question, as I understand it, now proposed, is what I could do under certain conditions, or rather under uncertain conditions. All I can say in answer is, that if I were asked whether the machine was strictly in accordance with the patent, I could say that it was not, whether upon one side or the other, and under whatever circumstances, because such is the fact.

Cross-int. 19. Is that first machine described in your answer to the 5th int. substantially the same as the machine described in the reissue, and particularly referred to in the first clause of the claim?

Ans. No; I think not; I think it contains less than the patent calls for in respect to the fitting of the rolls, and more in having the former corrugated, and in being furnished with the means for preserving that corrugation under heavy pressure, neither of which are found in the machine described in the patent.

Cross-int. 20. Now, please answer the same question as to machines numbered two, three, and four of your 5th answer.

Ans. The machine numbered two contains less than the machine referred to in the claim in regard to the fitting of the rollers, same as I said of machine number one, and it contains more in having a corrugated former and the means of preserving it, same as I said of number

one, and it contains beyond this means for giving rubbing action to the outside roller, which is not found in the machine referred to in the first claim. The machine number three differs from the machine referred to in the claim in having no former at all, except it be a concentric roller which will not form a heel-stiffener, if the same be made to conform to it, and this roller, such as it is, does not correspond longitudinally with the other roller. Moreover, it is corrugated and furnished with means for preserving it, neither of which are found in the machine re-
150 ferred to in the first claim, and all of this is true of the fourth machine, and besides the fourth machine is furnished with means for giving a rubbing action to the outside roller which is not found in the machine referred to in the first claim.

Cross-int. 21. I want to see how little change it takes to make a machine substantially different from Moffitt's, in your opinion; now, suppose two machines are so constructed that you would say it was substantially the same as described in the reissued patent and referred to in the first clause of the claim, and the other precisely like it, except that the former is corrugated or roughened and prevented from grinding against the roller, and state whether these two machines are substantially the same or substantially different, in your opinion.

Ans. The question is indefinite, and doesn't admit of a definite answer. In my first deposition in this case a machine was introduced and marked Exhibit A, which machine I said was made in accordance with the patent, and which statement nobody has disputed up to now that I know of. That machine when it came to my hands had a smooth former, and in the attempts to use it I found the former slipped upon the material so that it did not rotate with the former. To obviate this I had the former-draw filed so as to produce a roughened surface and enable the former to take the material along with it in its rotation. Such roughening of the roller did not take the machine out of the patent, as I understand it, nor did it make the machine operative for any good purpose either, but when it becomes necessary to reconstruct a machine in a form not described in the patent, and then to make such corrugations upon the former as to make those corrugations indent themselves into the material to a great depth in order to carry the material along with it under any new circumstances, and then, in consequence of the reconstruction of the machine and its mode of operation, to make it necessary to introduce into the machine a new invention to preserve those corrugations, I have no hesitation in saying that I think the machine is different in its construction and mode of operation from the machine described in the patent.

Cross-int. 22. It seems to me that you have made a mistake in your 6th ans.; will you please reconsider it, and state whether it suits you as it now stands?

Ans. I see no reason for changing the answer inquired of;
151 but perhaps I might, if some particular portion of it were pointed out as being wrong.

Cross-int. 23. There are two forms of the machine described in the Moffitt's reissue, both of which consist of two essential portions, one portion being the turning or revolving former, upon which the counter-blank is held and over which it is shaped, and the other the roll C in one of the two forms, and the rolls C, C^1, and C^2 in the other of the two forms, and it is clear, beyond all dispute, as I suppose, that the main merit of the invention set out in the reissue consists in forming the counter by compelling the blank to pass little by little through an aperture the same in shape, in substance, as the cross-section of the fin-

ished counter; defendants' machine also consists of two portions, one answering precisely in the construction, function, and mode of operation to the turning or revolving former of Moffitt's, and the other a shell or female mold; that is to say, in lieu of the one line of the roll C or the three lines of the rolls C, C^1, and C^2, an infinite number of other lines are added, making a surface; but the great merit of this machine also consists in forming the counter by compelling the blank to pass little by little through an aperture the same in shape as in the Moffitt machine. Now it is perfectly clear that where a surface is added on to each side of the roll C, or two surfaces put in between the rolls C and C^1 on one side and C and C^2 on the other, more friction would be brought on the outside of the counter, and therefore the counter-blank would be more likely to slip upon the former, and therefore some means be desirable or necessary to prevent this slipping; and also clear that the former must be circular in cross-section in order to adapt it for use in this opposing surface. But it seems to me an illiberal and unfair view of the inventor's rights to say that the man who first made a machine of these two portions, designed and adapted to shape the counter and give it a permanent set by compelling it to travel through the aperture between the two portions of the machine, has had nothing in substance taken from him by a man who does substantially the same thing, for the reason that the latter has a surface in lieu of the single roll, or of the three rolls, and a former circular in cross-section, in lieu of one heel-shaped in cross-section, and that moreover the latter has a toothed former while the pioneer inventor does not speak of a toothed former.

152 I have now made certain propositions, and I would be glad if you would state which of them you acquiesce in, if any, and as it seems to me entirely clear that you stake your client's case on certain minor differences between the Coté machine, so called, and the Moffitt machine, and have not considered the striking fundamental likenesses spoken of in the prefatory parts of my question, I wish you would explain why you take the one course rather than the other, unless, indeed, you dispute the existence of these fundamental likenesses.

Ans. I find it difficult to see what the question is as proposed by the counsel. If he will state definitely what the question is before me I will endeavor to answer it. What purports to be the question seems to me to be in the nature of an argument.

Cross-int. 24. The first question clearly put in the interrogatory is, which of the propositions you acquiesce in, if any, and the main proposition is that in both the Moffitt and the defendants' machines the counter is formed upon and by a turning or revolving former by being compelled to pass through an aperture of proper shape whereby it is shaped little by little, the pressure coming first upon one part and spreading wave-like over the whole; do you agree to this or any part of it? The other propositions you can readily see by reading the preceding question; please answer them likewise.

Ans. The first general proposition which I do acquiesce in is this, that where a person makes a meritorious invention by which an important advance is made in any art or trade, he should be entitled to the same in substance notwithstanding some slight variations in the infringing machine; but that is not this case, because I do not agree that there is any merit in the machine described in the reissue upon which this suit is brought. The next proposition in the question which I do

not agree with is as to the character of the thing described in the patent, such as it is, to wit: "That in both the Moffitt and the defendants' machines the counter is formed upon and by a turning or revolving former by being compelled to pass through an aperture of proper shape," etc. Take, now, the machine described in the Moffitt reissue, consisting of the former A and the roller C, as shown at Fig. 2; there is no aperture here that the leather is compelled to pass through whereby it is shaped little by little or any other way into the form of a counter; it simply acts as a pair of rollers working together,
153 and no heel-stiffener can be formed with the machine without the assistance of hand manipulation.

Simply passing a strip of leather or other similar material between the former and the roller will never cause the material to lie down upon the former however much the rolling may be repeated. It is no better for that purpose than a pair of rolls such as have been used for years in the manufacture of shoes for the purpose of rolling shoe-soles, instead of hammering upon a lap-stone, as long ago as I first knew about shoemaking, and [there is nothing new in this machine except it be the eccentricity of the former and the means of keeping it in contact with the roller when compared with the sole-rolling machine as mentioned]. If the former A were to be taken out of this machine and a simple roller put in its place, as is done in the third and fourth machines of the modification of Exhibit Machines Nos. 1 and 2, spoken of in my 2th ans., then the machine would not only be good for nothing for the purposes of making heel-stiffeners in and of itself [and there would be nothing new in it], and still there is the mode of operation of turning a crank and passing a piece of leather or other suitable for a heel-stiffener between them, which the counsel seems to assume has great merit in this invention of Moffitt's described in the reissue, whatever it may be.

There is some evidence in this case, I believe, going to show that heel-stiffeners have been formed in a certain modifications of this Exhibit Machine Nos. 1 and 2, but if I recollect the evidence such forming as was performed then was not by the machine alone, but always by assistance of the hands of the operator in keeping the material to be formed up to the former.

Now suppose that in the old sole-rolling machine a piece of leather had been kept to one of the rollers by the hands of an operator so as to not only shape the sole to the longitudinal form of one the rollers, but also to shape it to the circular form of one of the rollers, and such use of the machine should be found to a trifling extent useful for some purpose, it seems to me it would be difficult to find any meritorious invention in the machine itself, because the machine would be just as it was before, and if there is any invention at all it must be in the process.

Going now to the machine of the defendants in this case, I
154 find the shaping, such as it is, is done there by turning a crank also, and upon this crank is also a roller, if you choose to call it so, or if you choose to call it a former it will not change the character of the machine, but there is no other roller working in connection with it. There is, however, a shell or matrix working in connection with it, placed in such relation to the roller as to leave between it and the roller an aperture into which the material to be shaped is forced by the action of the roller, which is corrugated upon its surface for that purpose, and the edge of this shell over which this material is forced acts upon the material so as to disturb the construction of that material, and when it is so disturbed it is easily persuaded to go into and assume

the form of the aperture in every direction, and this is the kind of aperture necessary for shaping the work by the action of the machine itself, independent of any manipulation other than entering the material between the former and the mold, so that it shall take the proper direction as the crank is turned and it is drawn into the machine.

Now my imagination is not lively enough to say [in the light of the state of the art as it existed at the time of the alleged invention] that this last described machine has the same mode of operation as the machine with the former and roller before described, because one does get the thing into form of itself independent of any skill or manipulation of the operator in forming it, while the other will do nothing but to reduce it to an approximate form in one direction.

Going now to the other machine described in the reissue, where there are two side rollers in addition to the one roller which I have just described, I find that that machine will do a little something towards getting a stiffener into shape, as appears by Defendants' Exhibits L and K, but these specimens do not indicate any great merit in the machine as it appears to me, and this notwithstanding they were made in a machine which I suppose suited them better than the machine which I had made, and which it is fair to presume they made with all the skill they had under the light of the present day, keeping of course barely within the description of the patent, and hardly that, and the same machine operated by their own expert, who is undoubtedly very skillful, and who has said in his evidence, as well as I remember, or at least insinuated, that I have tried "not to do it."

155 Going now to that part of the question which is in these words, "The other propositions you can readily see by reading the preceding question; please answer them likewise." I find something said in that previous question about the "fundamental likenesses." Just what is meant by those fundamental likenesses other than what I have already referred to in this answer, which in the eye of the counsel, it appears to me, consists in turning the crank and thereby drawing through the material in some form, I am unable now to discover. But if this is what he means I think it is profitable to consider the machine which has been introduced into this case and marked Exhibit Machine No. 5, being the machine with two rollers for driving forward the work between the shell and one of the rollers.

This machine comes within the imagination of the counsel, wherein he sees great merit in turning a crank to drive forward the material "through an aperture of proper shape, whereby it is shaped little by little," etc.; but that aperture is not between the two rollers; it is between the shell and one of the rollers, and if the shell be taken away there will be no shaping for any practical effect in that machine; but one of the rollers may be taken away and the other corrugated; then the shaping will take place just the same and by the same manipulations.

But it should be observed here that if the shell working in connection with one of the rollers were taken away, that notwithstanding the machine would be good for nothing, as I have said it would be, the same machine in substance as the third machine described in answer to int. 5, which machine, if I understand the complainant in this case, he considers to be according to the modification of the machine described in the reissue upon which this suit is brought and referred to in the first claim thereof.

All portions of this answer which relate to what the witness calls the state of the art, and especially those portions which have been put in

brackets, are objected to as incompetent because not properly pleaded, and also because it is altogether too late at this stage of the case for the defendants to attempt to prove want of novelty; and the defendants are here notified that if they have any evidence tending to show that a turning or revolving former properly shaped to give the necessary
156 curve to a heel-stiffener from the flange upward was known before Moffitt invented it, they must either obtain leave of court to reopen the case and put in this evidence, or else must go to a hearing without denying the novelty of that element of the Moffitt machine; and they are further notified that throughout the case complainant's counsel has acted upon the fact that there has been no intimation of any kind, in the pleadings or otherwise, of any legal effect or anything whatever in the evidence, until this last answer of the witness Waters, even tending to show want of novelty in the combination of this former with one roll, three rolls, or any other means for holding the counter up to it, nor any evidence tending to show that any former substantially like it in material respects (regarding the question whether the cross-section of the former is circular or heel-shaped as wholly immaterial) was ever used in combination as above. And the complainant will insist at the hearing, as the record now stands, that Moffitt is the original and first inventor of this turning former, whether circular or heel-shaped in cross-section, taken by itself or revolving, and also in combination with one or more rolls, or any other means for holding the counter-blank up to it and shaping it over it substantially.]

HERVEY WATERS.

Attest:

THOMAS H. WAKEFIELD,
Special Examiner.

157 ADDITIONAL EVIDENCE FOR COMPLAINANT.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

CHAS. F. SLEEPER,
Special Examiner.

Present, J. E. Maynadier, esq., of counsel for complainant; T. L. Wakefield, esq., of counsel for defendants.

Deposition of Albert H. Spencer.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

BOSTON, *Sept.* 28, 1877.

Int. 1. What is your name, and have you before testified in this case?

Ans. Albert H. Spencer. I have.

Int. 2. Mr. Waters has much to say in regard to the roughening of the surface of the Moffitt turning or revolving former, especially on pp. 138–9, and in his 6th answer, pp. 141–2 of the printed record. Please state what kind of surface the former should have, and how the former would be constructed, as to its surface, by any fair-minded mechanic making the machine from the patent, with a desire to make the machine operate properly.

(Objected to as incompetent and immaterial.)

Ans. In regard to this matter of roughening or corrugating the former,

I think three things are conceded by all parties: First, that by the requirments of the Moffitt patent the counter-blank is to be placed upon and travel with the former; second, that roughening or corrugating the former tends to secure the movement of the blank with the former; third, that there is no specific instruction in the patent either to
158 roughen the former or not to do so. In other words, that while the patent is silent as to the character of the surface of the former, whether rough or smooth, there can be no doubt whatever that it should be of such character as to carry the blank with it in its movements.

Such being the facts, I think it is fair to say, and I do say, that roughening the surface of the former in any suitable manner is in strict accordance with both the letter and spirit of the patent, and not inconsistent with any of its provisions. I also say that such roughening for such purpose is within the knowledge of any competent mechanic, or, as I have heretofore put it, is an obvious mechanical expedient.

Int. 3. Please consider carefully Mr. Waters' 6th answer, pp. 141 and 142, and state whether it is erroneous or not; and, if so, wherein.

(Same objection.)

Ans. The answer referred to in the question is more ingenious than ingenuous, in my opinion. I cannot agree with the views expressed, by any means. It is an impossibility that the counter-blank should be carried through between the rollers at a rate either faster or slower than the motion of that part of the former in contact with it. The former in the Moffitt machine has a peculiar shape given it, viz, the shape which it is desired the counter shall have, and upon this former the counter is fitted by being made to conform in two lines or directions, viz, in the direction of the axis, or longitudinally and around that axis, or circumferentially. The blank is thus transformed in its passage through the machine from a plane sheet to a close-fitting cover for the former.

Mr. Waters asserts that "a plain sheet of leather" could not be carried through between the rollers without wrinkling, unless those parts of the blank which extend over the smaller part of the former slip upon it. Now, there is in this Moffitt process no bodily slip of any part of the blank upon the former, and cannot by any possibility be any, if the roughening is of such character as is adapted to carry the stock through the machine in the manner contemplated in the patent. There is a molecular movement, or a movement of the particles upon and with relation to each other, by which they become adjusted to the new position to which they are assigned, and in which they are set by the "rolling action" to which they are subjected.
159 None of the material is annihilated, but it undergoes merely a slight molecular change of position. Where the former is of greatest diameter the stock is somewhat stretched, and where it is of less diameter the material is fulled or compacted by the action of the machine; and this stretching or compacting, resulting in a permanent change of form, is within the capacity of the material, that is, it is of such extent or degree as not to disintegrate the blank, or, as the Moffitt reissue has it, "The effect of this is that as the former turns it presses forward the particles which compose the material, tends to alter their relative positions, and to give them a new set by the progressive pressure imparted to them."

The sixth question and answer referred to allude to a slight difference in conformity between the former and the supporting-roller, and the answer assumes that without that difference the manner in which the

blank would be carried through would be materially changed. Now, in point of fact, the former and roller do practically if not precisely conform when separated a distance equal to the thickness of the blank. If there is any variation whatever while the blank is passing through the machine it is sufficient only to compensate for the very slight thinning and thickening of the stock in different parts, due to the stretching and fulling of the same, to which I have just referred. The aperture between the former and the outer support gives to the blank which is forced through it the proper shape, inwardly and outwardly; the inner surface is evidently necessarily of less extent than the outer, and if the former which determines the shape of that inner surface is brought into actual contact with the supporting device forming the outer surface, they will touch at one or two points only, and will apparently not exactly coincide. Thus two circles of different diameters may be placed one within the other, leaving an annular space between them, but if the smaller one is moved so as to touch the larger one at one point, there will be an apparent lack of coincidence between them. That is about all there is of this lack of conformity between the former and the supporting-roller in machine No. 1 and 2, which we have been looking at while there was no blank in it.

160 There is no assertion in the Moffitt reissue that the shaped counter shall be of uniform thickness in all its parts; but it does insist on the importance of "uniform hardness throughout," "true and proper permanent form throughout," "uniform solidity," "uniformly hardened and set to shape," "proper firmness throughout its whole body," "proper compression and compacting of the leather," "intensify and confirm this set, resulting in the production of a counter superior to any heretofore known to me, and having new characteristics, such as greater fixedness of shape, greater smoothness of surface, more uniformity of character and compactness throughout, and the almost entire avoidance of perceptible puckers or crimps." The slight variation noticed in conformity of the parts would in no way interfere with the production of a counter of this character.

Int. 4. Mr. Waters, on p. 139, states that a greater "end pressure" can be obtained in Exhibit Machine No. 1 and 2 than in the machine described in the patent. State your opinion as to this.

Ans. The degree of end pressure or of side pressure which may be obtained in the Moffitt machine is not stated in the patent, but the patent contemplates both hand-machines and power-machines. The drawing is a representation of a hand-machine, while machine No. 1 and 2 is a power-machine. I have no doubt a frame built as is this power-machine is better able to afford end pressure that would be that of the hand-machine shown. It is a question of degree and a case in which the good sense of the constructor in these matters of detail ought to be freely used.

Int. 5. Have you since your last deposition made any counters on a Moffitt machine without notching the blanks? If so please produce them and the machine on which you made them, to be marked as exhibits in this case, and explain why it is that you can use these unnotched blanks in this machine.

(Objected to as incompetent, immaterial, and not in rebuttal to any evidence of the defendants.)

Ans. I have made some counters since the last deposition, which I now produce. (Here put in evidence and marked Exhibit Spencer No. 9, C. F. S., sp'l ex'r.) The machine upon which these were made is an exhibit in the case now, marked Exhibit Machine No. 4, but the former

and its supports are not the same ones that were in it when first produced, but are similarly located and conform to each other as described in the patent. The difference between the present
161 and former devices is that there is now a broader flange upon the main supporting-roller than before, and it is adapted to turn a somewhat sharper angle than was the former one, while the auxiliary rolls are not flanged and have no bearing at one end, so as to give room for the broader flange of the central roller. It is because of this broader flange and more defined angle, and also because of a more complete conformity between the former and support, that I am able to flange the counters without notching in this machine, and also because there is allowed in these counters a slight crimp or pleating along the edge of the flange. Besides this, the former used in making the counters Exhibit Spencer No. 9 is grooved or roughened more decidedly than before, enabling it to carry the blank with it more certainly.

Int. 6. One of the witnesses on behalf of the defendants, Mr. Andrews, finds fault with the counters Exhibits Spencer Nos. 1 and 2 and Hughes Nos. 1, 2, and 3. If these counters be defective in shape, please state whether that is the fault of the machine or not, and explain on what the shape of counters made upon Moffitt's machine depends, supposing the counter-blank to be of the proper form and the machine to be constructed and operated as described in the reissue.

Ans. The shape of the counter formed in the Moffitt machine depends upon the shape of the former and of the supports which conform to it; if these devices are improperly formed there will be produced by them improperly-shaped counters, or if they do not properly conform to each other the blank will not receive the proper form and finish; but aside from this there is nothing to prevent the production of counters perfect and permanent in shape by the mechanism and process described in the Moffitt reissue, and referred to in the 1st and 3d claims thereof.

Adjourned.

BOSTON, *Sept. 29th*, 1877.

Int. 7. Please consider again the 6th answer of Mr. Waters, pp. 141 and 142, under the assumption that the counter-blank conforms only to the longitudinal curve of the former, and does not conform circumferentially, but remains uncurved lengthwise of the blank, and state whether that answer is correct or not under this assumption.

162 Ans. The answer is substantially correct under that assumption, for the blank would emerge from the machine as a trough and not as a counter. The object of that machine being to make a counter, and the instructions of the patent being that the blank shall be placed upon and carried with the former, and, furthermore, the patent providing means for pressing the ends of the blank against the former so that it shall travel with it, it is clear that the intention of the patentee was that in some proper manner the blank should be so held to the former as to be curved circumferentially as well as longitudinally of the former, or, in other words, that the machine should make a counter and not a trough; it is therefore no proper use of the Moffitt counter-machine which passes the blank through it without giving it both the curves I have referred to.

Int. 8. Near the bottom of page 151 Mr. Waters denies that there is any aperture of the kind described by him in the machine shown in Figure 2 of the reissue. What is your opinion as to this?

(Objected to as incompetent and immaterial.)

Ans. Figure 2 of the reissue clearly shows an aperture between the former and the supporting-roller, through which the blank shown in dotted line upon the former A is caused to pass. The former and the roller E nowhere touch each other in that Figure 2, but are separated an appreciable distance sufficient for the thickness of a counter of the size indicated in the drawing. With the blank in position as shown in that figure a heel-stiffener could be formed, and would be formed by the joint action of the former and supporting-roller, whether with or without hand manipulation.

Int. 9. Mr. Waters speaks on pp. 152 et seq. about the state of the art, and seems to think that the crank, or turning the crank, is relied upon by the complainants as the chief novelty in Moffitt's machine. Please state generally how far you are familiar with the state of the art, and also what part, if any, of the machine described in the reissue you believe to be new with Mr. Moffitt in view of the state of the art.

(Same objection as before, and the matter inquired of is not in reply to the defendants' evidence.)

Ans. I have made in this case all possible research as to the state of the art, both in the matter of records and of practical use of
163 mechanism of this character, in the endeavor to ascertain how far others had gone before the date of the Moffitt invention. While my searches have not been exhaustive, I still consider that I have familiarized myself with the subject, and I have been unable to find in prior use for the manufacture of counters or heel-stiffeners that which I have regarded and now regard as original with Mr. Moffitt, viz, a former adapted to give the desired shape to the counters, mounted upon an axis so as to have a rotary or reciprocating motion, whether used in combination with one or more supporting-rollers or with any other suitable mechanism to shape the blank over the former. Now, while I do not believe that Moffitt was the inventor of rotary motion, I do believe as a result of my researches, not contradicted by anything produced in this case to my knowledge, that he was the inventor in a counter-machine of a turning or revolving former adapted to give the desired shape to the counter, and also of such former in combination with suitable mechanism for holding and shaping the blank over it, and this whether the former be circular or heel-shaped, in cross-section.

Cross-examination by CHAUNCEY SMITH, Esq., of counsel for defendants:

Cross-int. 10. Do you think the necessity for roughening the former would be as great in a machine like that described in the reissue, where the blank is carried through between the former and rollers which are capable of rotating as the blank moves over them, as it is in the defendants' machine, where the blank is carried through between what is called the former and a stationary concave surface against which the blank is pressed, so as to be resisted with all the friction due to the whole surface of the shell or mould?

Ans. No.

Cross-int. 11. In the machine described in the reissued patent would the blank when pressed between the rollers and the former be naturally carried along by the rotation of the former, even if the surface of the former was not specially roughened to give it a bite upon the material?

Ans. That would depend considerably upon the smoothess of the

supporting-rollers and the degree of friction in their bearings.
164 I don't think the blank could be depended on to move with the former under severe pressure, unless the former was better adapted to adhere to the inner surface of the blank than the supports were to cling to the outer surface.

Cross-int. 12. What machine did you understand Mr. Waters to be testifying about in his answer to the 6th interrogatory on pp. 141–2?

Ans. I supposed he was referring to the Moffitt machine, although I noticed that he designated the former as a corrugated roller in that answer. He does not say which of the Moffitt machines he had then in mind, but he had last been describing Exhibit Machine No. 4. As I now look at it I think, however, he had in mind Exhibit Machine No. 1 and 2.

Cross-int. 13. In your previous examination you stated, in answer to cross-int. 80, that in the machine No. 1 and 2 the former and the supporting-roll do not at this point approach each other the thirty-second part of an inch nearer than they do at other points. What proportion does the thirty-second part of an inch bear to the thickness of blanks such as you have experimented with, before they are introduced into the machine?

(Objected to because immaterial, except upon the assumption that the witness stated that they did approach each other the thirty-second part of an inch nearer, &c., which is not what he said.)

Ans. The blanks we have been operating upon vary in thickness. I have never before measured, but I now find that fourteen of them pressed closely together make an inch in thickness. If I had said the former and support approached the thirty-second part of an inch nearer, &c., the thickness of the blank would compare with that difference in conformity as do the fractions $\frac{1}{14}$ and $\frac{1}{32}$. I said, however, that they did not approach the thirty-second of an inch nearer at one point than at another; and in answer to cross-int. 79 I said, "Their outlines seem to approach a trifle nearer than elsewhere at the point where the diameter of the former is greatest, but this variation in conformity would be imperceptible in the result." This appearance of approach was due principally to the fact that the former and roll were thrown
165 somewhat out of alignment by the removal or absence of the blank, as stated in my answer to interrogatory 3 of this deposition.

Cross-int. 14. Won't you look at that machine again and state what difference there is in the distance between the points where they approach each other most nearly and where they are most widely separated?

Ans. I find there is a lateral play to the supporting-roller, which, when there is no blank being formed in the machine, permits the flange of that supporting-roller to approach the end of the former, and thus to vary the relation of the curves of their outlines. When the flange of the supporting-roller is crowded away from the end of the former, as it is in shaping the heel-seat of a counter, the curves of the former and of the supporting-roller coincide almost perfectly. I have no instrument of precision to measure the exact variation, but in my best judgment I should say it does not exceed the fiftieth part of an inch.

Cross-int. 15. Have you ever tried the experiment in a machine like the machine No. 1 and 2, except that the rolls accurately conform to each other, to see whether there is any difference in the manner in which the blank passes through a machine so constructed, and the manner in

which it passes through the machine No. 1 and 2, with the rolls as they actually are?

Ans. I have made counters on this machine with both the round former and the heel-shaped former, but with no other. As near as I can discover by careful observation the heel-shaped former conforms precisely in outline to the outlines of the supporting-roller in machine No. 1 and 2, when held at the proper distance from the body and flange of that roller, viz, about the fourteenth part of an inch. The heel-shaped former therefore accurately conforms to the supporting-roll with which it was used, but I have observed no difference whatever in the operation of the machine whether the one former or the other was in it. I have never tried any other machine of this specific construction.

Cross-int. 16. Have you ever tried the experiment enquired about in the last question, understanding it to refer to a round former like that now in the machine.

Ans. No.

166 Cross-int. 17. In your answer to int. 5 you produced some exhibits marked Exhibit Spencer No. 9. Was the machine upon which you made those exhibits, and when you made them, constructed in strict accordance with the description in the Moffitt reissue? If not, will you please to point out minutely in what respects it differed, and also in what particulars you altered it from what it was before in order to make these exhibits; and explain why you made the alterations.

Ans. When I introduced those exhibits in answer to int. 5 of this deposition, I explained the alterations which had been made in machine No. 4, and why they were made, except that I did not mention a backing or support of Babbitt metal along the outer side of the auxiliary rolls, to compensate for the removal of the bearing at one end, on account of the increased width of flange on the main support.

The differences between that machine as it now stands and that shown in the reissue drawings are that the present former is circular in cross-section and roughened on its surface, while the drawing shows a smooth, heel-shaped former; the auxiliary rolls are pressed against the blank by levers and weights instead of weights only as in the drawings; and the bearing at one end of each of these auxiliary rolls shown in the drawings has been replaced by a side bearing or support. I know of no other alterations, except the shaping of the former and central support to form an angle at the base of the heel-seat instead of the curve shown.

Cross-int. 18. Why did you substitute a round former for the heel-shaped former previously in the machine?

Ans. Because the round former was adapted to the desired shape of the counters, and also because a round former as properly belongs to the Moffitt machine as a heel-shaped former, as I understand it.

Cross-int. 19. In your answer to the 5th int., you say "It is because of this broader flange and more defined angle, and also because of the more complete conformity between the former and support, that I am able to flange the counters without notching in this machine, and also because there is allowed in these counters a slight crimp or pleating along the edge of the flange." What do you find in the reissue patent to indicate that the machine was to produce such crimping or pleating in its operation?

167 Ans. The reissue, as I recollect its language, contemplates a counter nearly destitute of pleating in the heel-seat. In this re-

spect the counters Exhibit Spencer No. 9 would hardly meet the expectations of the patentee. It is difficult in these hand-machines to so stretch and compact the stock as to form a broad flange without pleating it more or less, unless the blank is notched, as to which the patent is silent.

Cross-int. 20. Do you understand that these counters, Spencer No. 9, are set to the shape they are to have when lasted into the shoe?

Ans. I think they would be improved if the circumferential curve were somewhat sharper; that is, if the points approached each other more closely. In other words, what is called in counter manufacture the second process would improve and finish them, I think.

Cross-int. 21. You think, I suppose, it would be necessary to bring the extremities nearer together before or when they are introduced into the shoe?

Ans. No; I think they would do good service as they are if the last was of that shape.

Cross-int. 22. And did you ever see any lasts of the proper size for these counters, having a heel of the shape of these counters, and as wide at the point where the ends of these counters would come as these counters are?

Ans. Yes. Most coarse shoes are made on lasts shaped at the heel much as these are, if not of this precise shape. It is the custom to make cheap shoes broad in the heel.

Cross-int. 23. I notice that the vertical curve of these counters, from the flange upwards, is quite different from what it is in some of the counters you have produced, Spencer No. 4, for instance, and from what is represented in the counter shown at Figure 6 in the drawings of the reissue patent. Why didn't you make the counters Spencer No. 9 correspond more closely in that particular with the counter represented in the drawings?

Ans. The counters Spencer No. 9 correspond in respect to their vertical curves with the corresponding curves of the former on which they were made; but as I didn't make the former, or have anything to say about making it, I don't know why a change was made in this curve, unless, as appears to me, the shape delineated in Figure 6
168 represents too pronounced a curve along the back of the heel for any but a full-blooded African. I don't understand that the drawing representing a counter is set up as a model for imitation in the matter of shape or size. It is referred to in the specification as "Figure 6 represents a shaped stiffener for a boot or shoe heel." It is a repre'tation of a form in which counters may be made.

Cross-int. 24. Do you find the curve of the counter in Figure 6 any more pronounced than the curve of the formers in Figures 2 and 4?

Ans. I presume it is the same curve; at all events it should be in the drawing, since it appears to be shown as a sample of what would be produced upon a former of the particular shape shown in Figures 2 and 5. The Moffitt patent nowhere limits the shape of the former to the particular shape shown in the drawings, nor does it undertake to say what precise form the counters shall have, except that they shall take the shape of the former.

Cross-int. 25. Is it your idea that the reissue patent in Figure 6 of the drawings, and in the shape of the formers as represented in Figures 2 and 4, sets up a standard which cannot be reached by the machine?

Ans. Decidedly no.

Cross-int. 26. Do you think that the counter represented in Figure 6,

considered as a standard of a counter, set to shape, and in the character of the flange, is fairly represented by your Exhibits 9?

Ans. I don't consider it as a standard, and therefore did not undertake to imitate it specifically in making the Exhibits Spencer No. 9. A much better representation of that particular style of counter shown in Figure 6 is found in Exhibits Hughes No. 1 and 4, which were made, the first on a heel-shaped former, and the second on a round former. If the particular shape of the counter constitutes it a standard I do not consider that the Exhibits Spencer No. 9 fairly represent it. I notice one thing, however, about this counter shown in Figure 6 which is somewhat deceptive. The position in which it is placed gives to its reproduction upon paper the appearance of having a very sharp circumferential curve. But it will be noticed in all the drawings
169 which show an end view of the former that the former is semi-circular in crosss-ection at that part which shapes the side and back of the heel of the counter. The perspective view given of the counter appears to show something different from this semi-circle at the back of the counter.

ALBERT H. SPENCER.

Attest: CHA'S F. SLEEPER,
Special Examiner.

Deposition of William G. Hill.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

BOSTON, *September* 28, 1877.

Int. 1. State your name, age, residence, and occupation.

Ans. William G. Hill; 36; Malden, Mass.; leather merchant.

Int. 2. Were you ever engaged in the manufacture of counters; if so, from what time to what time?

Ans. I was. From the spring of 1872 until about the first of March, 1873.

Int. 3. State generally to what extent you sold counters during that time.

Ans. For the last six months of that time the average was from ten to thirty thousand pair a day.

Int. 4. Please look at the articles now shown you, marked Exhibits Spencer No. 1 and No. 4, and Hughes Nos. 1, 2, 4, and 6, and state how they compare as counters with those which you manufactured and sold in 1872 and '3.

(Objected to as incompetent and immaterial.)

Ans. They are very superior, and of much greater value as an article of commerce, because they are formed much nearer to the shape of the human foot, or the heel thereof, rendering the shoes much more comfortable, serviceable, and valuable than with the counters as made by me during the time stated.

Int. 5. Can you produce a sample which fairly represents the counters made and sold by you during the time stated?

170 Ans. I can.

(Witness here produces a counter, marked Exhibit Hill, C. F. S., sp'l ex'r, now put in evidence.)

Int. 6. State whether that counter (Exhibit Hill) is better than, or inferior to, the great bulk of those made and sold by you in 1872 and '3.

(Same objection.)
Ans. It's about a fair average sample.

Cross-examination waived.

WILLIAM G. HILL.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of John R. Moffitt.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

BOSTON, *October* 1, 1877.

Int. 1. What is your name, and have you before testified in this case?

Ans. John R. Moffitt; I have.

Int. 2. What are the most marked differences between the shape of counters when you commenced to manufacture them and their shape as you now make them?

Ans. They now have a shorter turn or curve between the heel-seat or flange and the body of the counter; and they have more bulge to the body of the counter now.

Int. 3. What was the shape of the first leather-board counters which you knew to be in the market; and how nicely were those counters finished?

(Objected to as immaterial, incompetent, and not in reply.)

Ans. The counter Exhibit Hill is a fair sample of the first leather-board counters I saw in the market shaped to a form.

Int. 4. Please describe the counters made upon the Coté machine (so called) as they were when they were first put in the market; and
171 state also how they were changed afterwards, if they were changed.

(Same objection.)

Ans. They were first made and put into the market circular as they come from the machine, afterwards they were squeezed by the hand to give them a shape nearer the heel of a last; and subsequently, about 1875, they were shaped in a machine to give them a more desired shape by the second operation, to fit a last.

Int. 5. What is done now with the counters as they come from the so-called Coté machine, and before they are finished?

(Same objection.)

Ans. To the best of my knowledge, they are all shaped again by a second machine, or operation, to make them more nearly conform to the last.

Int. 6. What determines the shape of counters made on your machine and the Coté machine?

Ans. The revolving former.

Int. 7. And what determines the shape of this former?

Ans. The shape or style of the counter, to suit the notions of the trade of parties using the counters.

Int. 8. What changes have you made from time to time in the shape of the former? And how come you to show in your patent a former of the shape there shown?

(Objected to as immaterial, incompetent, and not in reply.)

Ans. The first former I made in '66, and I made many changes to

suit the notions of parties in the trade using them. About 1872 the general idea was of a shape and style much as represented in my reissued patent.

Int. 9. Do you recollect making any change against your own knowledge of what was right? If so, please state when, under what circumstances, and what the change was.

(Same objection.)

Ans. Yes, I do. Some time in '76 Mr. Andrews and Mr. Sampson, who were licensees of mine, wished me to change the formers in their machines to make a counter like Defendants' Exhibit Q.

I hesitated and objected to making the change, not because I was furnishing them all improvements, alterations, and repairs without cost to them, hoping to be remunerated by way of royalties, but that
172 my whole experience was that the counter would not be satisfactory to the trade; and before I had these alterations fully completed, the counters were returned, and I was called upon to again change the machines to nearly what they had been, which I did without cost to the parties.

Int. 10. What is the defect in the counters Defendants' Exhibit Q?

(Same objection.)

Ans. The complaints that came to me in my experience are objections, viz, two: First, the curve or edge forming the heel-seat, running sharp to both ends of the counter, that unless it may happen to fit a special last, a new edge or turn must be formed in the lasting of it, which is difficult to do that it won't show a defect in the finish of the shoe. The second difficulty, that the portions of both sides of the counter from about where the notches are to the ends are not quite so circular as they should be.

Int. 11. How do the counters Exhibits Spencer Nos. 1, 2, and 4, and Hughes Nos. 1, 2, 3, 4, and 6, compare with the best leather-board counters which were in the market in 1872 and '3?

(Same objection.)

Ans. In 1872 and '3 they would be a superior counter to anything of the kind I had seen.

Int. 12. I noticed some of these counters flare more, or are wider apart at the front end of the counter than the Exhibit Converse Nos. 1, 2, 3, 4, 5. Please state how the counters were in this respect which you manufactured in '72 and '3; and also answer the same question as to the leather-board counters then in the market.

(Same objection.)

Ans. In the year 1872 and '3 all the counters that I had made or seen made were wider apart at the ends; also all the leather-board counters I had seen up to that time were also wider apart at the ends than the exhibits.

Int. 13. Suppose one of your revolving formers and its supporting roll were so shaped as to conform exactly when separated from each other a distance equal to the thickness of the counter-blank, and state whether they would conform, or not, when brought into contact?

(Same objection.)

173 Ans. They would not conform. The variation would be relatively as to the thickness of the counter-blank.

Noon recess.

Int. 14. How many revolving formers go with each machine, in order to make a complete machine adapted to make all sizes of counters from all thicknesses of material used?

(Same objection.)

Ans. There are nine; three each adapted to shape the various thickness of the blanks, varying in their longitudinal shape to suit the supports for shaping the greater or less thickness of material while passing with the motion of the former and its supports.

Int. 15. Do you mean three sets of formers and three formers in each set? If so, state what is the main difference between the formers of one set and the formers of another set?

(Same objection.)

Ans. Yes, I do; and the main difference is that for shaping the smallest size the longitudinal curve is more circular than for the medium size; and for the largest size counter it is less circular than the medium size.

Int. 16. What is the difference between the three formers of the same set?

(Same objection.)

Ans. The difference in the three formers which go with the same support is in their variation in their longitudinal lines to suit the various thickness, of material.

Int. 17. Please explain what you mean by "the second operation" in your 4th and 5th answers.

(Same objection.)

Ans. I mean they are shaped as described in my patent Exhibit Moffitt No. 5. (No. 178869, dated June 20, 1876.)

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 18. Where and by whom were the counters which were made upon the Coté machine, named by you in your fourth answer, made?

174 Ans. The first Coté counters that I seen I'm not able to say where they were made or who by, but early in '74 I called upon these defendants in their place of business in Boston, on High street, to notify them that they were infringing my patent, and then and there I saw counters which I believe were manufactured by them, having a circle. Subsequently, about '75, I saw counters which had the appearance of being squeezed by hand, to conform more nearly to the last of a shoe, in the factory of Russell & Johnson, at Woburn. [Mr. Johnson told me they were paying twenty cents a thousand for squeezing, and that they were not so good as counters that I showed him made by my double process, and desired my assistance in arranging machines that he then had, to again shape their counters after passing through the so-called Coté machine.]

(All that portion of the answer included in brackets objected to as not being responsive and being the statements of third parties.)

Cross-int. 19. Have you now stated all that you know as to the counters made upon the Coté machine being first put upon the market in circular form, as they came from the machine?

Ans. I have not. I am now reminded that in the summer of '74 I again called upon the defendants at their place in South Sudbury, where they were making large numbers of counters, and through their courtesy I was shown a number of so-called Coté machines, and a large number of counters ready shaped for the market, but saw no arrangement for again shaping, or any counters that had been in any way again shaped after coming from the Coté machine; and I again called on them at their place of business in High street, some time in '75,

showing them certified copies from the Patent Office of the Coté files, which copy showing the Coté patent being rejected, being substantially anticipated by my patent, and I then seen no counters having the appearance of being again shaped by a second process. I then saw numbers of counters in their place of business.

Cross-int. 20. Whether or not you were a manufacturer of counters in the years 1872 and '3, and if so, where, and to what extent?

Ans. In the years 1872 and '3 I was superintending the manufacture of counters in the factory of William F. Spinney & Co., of Chelsea, but I cannot say exactly as to the extent, farther than that there were many weeks during that period when we made over 100,000
175 pairs a week, and much of the time we run continuously day and night from Monday morning to Saturday night.

Cross-int. 21. Did you continue this work, as such superintendent, during the year '73? And, if so, how far, if at all, during the year '74?

Ans. Until the latter part of '73, say from about July, which was the time when I commenced making machine' for rolling and setting to shape counters according as to my patent of 1872. After this my superintendence and cares of the stiffening factory were divided.

Cross-int. 22. What kind of counters were you making during this period of '72 and '73, stated by you?

Ans. Excepting what was experimental, they were rubber counters in moulds.

Cross-int. 23. When, if at all, did you first make a business of the manufacture of leather-board counters?

Ans. I have not been directly engaged in the manufacture of leather-board counters; have only furnished machines to parties in the leather-board business to manufacture counters upon, provisionally by a license from me.

Cross-int. 24. Have you ever been in the business of the purchase or sale of leather-board counters?

Ans. Not further than my licensees relied upon me to furnish them with formers to my machines that would produce the counters satisfactory to their customers, and that all such changes and alterations were at my cost.

Cross-int. 25. Have you ever been a manufacturer of boots or shoes in which these counters were used; if so, when?

Ans. I have not.

Cross-int. 26. What machine do you refer to in your answer to the fourteenth interrogatory in which you state, among other things, "there were nine formers to each machine, three of each adapted to shape the various thickness of blanks," &c.?

Ans. My machine; as I furnish them, when desired, to make all the sizes and variations that are necessary to form the variety of counters that may be desired.

Cross-int. 27. By which exhibit in this case is the machine mentioned in your last answer represented?

176 Ans. Exhibit Machine No. 1 and 2, and Exhibits Machine 5, and 6, are machines without the number of formers spoken of, but are in part similar to the machines that I furnish the variety of formers with, when desired.

Cross-int. 28. In what respect do those exhibits named in your last answer differ from those machines in which you furnish the nine formers referred to in your last *interrogatory?*

Ans. In Exhibit 1 and 2 the shaft is arranged to attach and detach a former having motion about a centre, by means of a screw-thread on

the end of the shaft, and, as will be seen by the former, a taper hole in it with a screw at the largest end, that it can be screwed on and off, and each of the nine revolving formers being finished like it in this part, that they can be readily changed. The mechanism to shape the counter to the former is arranged that it can be readily changed to a former of different size if desired. This machine differs only that it has but two formers represented, and without the concave support in connection with a circular support which the majority of my machines have.

Machines 5 and 6 constitute both parts in forming a counter as represented in patent Exhibit Moffitt No. 5, and is not presented with the variety of formers spoken of, and is one of my earlier machines.

Cross-int. 29. What changes in the shape of the former did you make between 1866, when you commenced, and 1872? State as nearly as you can recollect the different shapes or forms of such formers.

Ans. The first counters I made in 1866, I made a style or lead counter and from that I made moulds with plaster of paris taking the form of the lead counter, the former or plunger taking the shape of the inside and the mould of the outside, making from that cast moulds, in which I vulcanized rubber counters. Then in '67 I made Exhibit Machine No. 3, on which I made the counter Exhibit Moffitt No. 1, and in the latter part of '67 I commenced making counters of rubber of which this is one, made with a mould and former as above described (Now in evidence and marked Exhibit Rubber Counter, C. F. S., sp'l. ex'r.) From these I made many changes in the styles and forms of counters;
177 among others were counters very nearly like Exhibits Hughes No. 6 and Spencer No. 1, with the heel-seat turned on a curve with the body, as these are, and but a portion of counter flanged as represented by these exhibits, leaving at each end about three-quarters of an inch not turned over in any way, making a counter looking very much like these exhibits, to suit a portion of the trade, in the early part of '72.

JOHN R. MOFFITT.

Attest: CHAS. F. SLEEPER,
Special Examiner.

178 ADDITIONAL EVIDENCE FOR DEFENDANTS.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

THOMAS H. WAKEFIELD,
Special Examiner.

Present, J. E. Maynadier, esq., of counsel for complainant; T. L. Wakefield, esq., of counsel for defendants.

Deposition of James L. Pinkham.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

BOSTON, *Oct.* 5, 1877.

Int. 1. State your name, age, residence, and occupation.

Ans. James L. Pinkham; age 47; residence at Woburn, Mass., and am superintendent of L. B. Russell's stiffening factory.

Int. 2. Whether or not you were superintendent of Russell & Johnson's factory at any time; and, if so, when and how long?

Ans. Yes, sir; from September, 1872, until Mr. Johnson's death in November, 1876; since then for L. B. Russell.

Int. 3. As such superintendent what did you personally do in relation to the business?

Ans. Oversee the work—that it was properly made; the work was of putting the stiffenings together; of seeing that they were properly shaped and properly packed.

Int. 4. State what, if anything, you know of counters or stiffenings made by Hill & Brown, of whom Wm. G. Hill was one of the partners.

Ans. I have seen some of them at their office in Hanover street; some that have been brought to our factory in Woburn. As near
179 as I can remember it was in the latter part of 1872, or the winter of 1873.

Int. 5. Whether or not you are familiar with the kinds and styles of counters that were merchantable and used in the trade during 1872 and 1873?

Ans. Yes, sir; I consider myself so.

Int. 6. Will you look at the counter now shown you marked Complainant's Exhibit Hill, C. F. S., special examiner, and state whether or not that was a merchantable counter and such as was used in the trade in 1872 and 1873?

Ans. No, sir; I think that our packers would have thrown it out.

Int. 7. State if you know whether or not that is a fair specimen of the counters made by Hill & Brown during the time they were in business in 1872 and 1873.

Ans. I should not, as far as I have seen.

Int. 8. Whether or not while you were superintendent for Russell & Johnson the Cotè patented machine was used by them; and, if so, were you there when they commenced such use?

Ans. Yes, sir; I was.

Int. 9. How were the counters from the first use of that machine made and prepared for the market?

Ans. They were first rolled on the Coté machine, then what we termed done over or shaped on a shaper.

Int. 10. When did you commence using the Coté machine?

Ans. Well, I can't give the exact dates, but it was in the spring or summer of 1874.

Int. 11. Whether or not you had been accustomed while in Russell & Johnson's employ to shape the counters upon a shaper previous to the use of the Coté machine, and, if so, state how the counters were made and shaped.

Ans. When I was first employed there we used different kinds of Hatch machines. All our best and No. 1 counters were shaped upon a shaper after being done on the Hatch machine.

Int. 12. Will you look at the counters now shown you, marked Complainant's Exhibit Spencer No. 4, Complainant's Exhibit Spencer No. 1, Complainant's Exhibit Hughes No. 5, and Complainant's Exhibit Hughes No. 6, and state whether or not these counters or such
180 as these would have been merchantable and adapted to the trade in 1872 and 1873?

Ans. I should not consider them worth any more than flat ones—the flange is so narrow that they would have to be turned over before they could be used in shoes. I refer to them all. There is no heel-seat at all. They are too straight in the back. I refer to Hughes No. 5, and

Spencer No. 4 and No. 1 are narrow, and these notches in the flange would show in the heel-seat, many of them. There is no real heel-seat to any of them.

Int. 13. Whether or not the exhibit marked Complainant's Exhibit Hill, before referred to, would be any more valuable than the blank before being made into a counter like that?

Ans. No, sir; I should consider it not.

Int. 14. Have you a sample of such counters as were made by you on the Hatch machine in 1872 and 1873 after it was shaped upon the shaper; and, if so, will you produce it to be marked as an exhibit in this case?

Ans. Yes, sir; here is one that was made in 1873 to the best of my belief. (Witness produces a counter which is offered in evidence and marked Defendants' Exhibit R., T. H. W., examiner.)

No cross-examination desired.

JAMES L. PINKHAM.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of Stephen Moore.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

OCT. 5, 1876.

Int. 1. State your name, age, residence, and occupation.

Ans. Stephen Moore; age 42; reside at Sudbury, Mass., and am a manufacturer, one of the defendants in this case.

Int. 2. Please state your connection with and knowledge of the manufacture of counters.

181 Ans. I patented a machine for the manufacture of counters in November, 1872. I have taken five or six other patents on counters and the machines for making the same, and I have been more or less engaged in the manufacture and sale of counters since that time.

Int. 3. What knowledge had you of the manufacture of counters and the state of the art and the demand of the market in 1872 and 1873?

Ans. In 1872 I saw something of the counters manufactured by Hill & Brown, by Russell & Johnson, and N. J. Simonds, I think, and in the early part of 1873 the firm of which I am a member leased the machinery used by Hill & Brown, and succeeded to their business as counter manufacturers.

Int. 4. Will you look at the counter now shown you marked Complainant's Exhibit Hill, C. F. S., special examiner, and state whether or not that is a fair sample of the counters made by Hill and Brown during the years 1872 and 1873 while they were in that business, and whether or not counters like that exhibit would have been merchantable counters and adapted to the trade at that time.

Ans. It is not by any means a fair sample of the counters offered for sale by Hill & Brown, as far as my knowledge extends, and I have seen a great many thousand pairs of the counters made by them, and continued the use of the same machine making similar counters for a year after they ceased manufacturing. I think this exhibit, if found by a packer in packing counters for the market, would have been unhesitatingly thrown aside as refuse at any time during the years men-

tioned. I think the counter Exhibit Hill, or any like it, would most certainly not have been a merchantable counter, and would not have been offered for sale knowingly by Hill & Brown, or ourselves as their successors.

Int. 5. Have you a counter in your possession manufactured by you on the same machine used by Hill & Brown which was made in 1873 or 1874; and, if so, will you produce it to be marked as an exhibit in this case?

Ans. I have a counter which was made on one of the Hill & Brown machines in 1873, November or December, I think, and do produce it.

(Counter produced is offered in evidence and marked Defendants' Exhibit S, T. H. W., examiner.)

182 Int. 6. Whether or not Defendants' Exhibit S is a fair sample of the counters made on the Hill & Brown machines during the years 1872 and 1873?

Ans. I think it is a fair sample, not above the average as regards shape and workmanship. It has a lining of thin cloth which was not applied to the other counters.

This counter was sent us to be shaped with the cloth pasted on, which is why I am able to say it was made in 1873.

Int. 7. How many of those Hill & Brown machines were used by them in 1872 and 1873, and subsequently by you, and what kind of machines were they?

Ans. I think we received from them all the machines they had, which was eight. I think we never run over six of them as then constructed. They were what is known as the Hatch machine, or a modification thereof, running under the Hatch patents of 1871 and 1872.

Int. 8. In the use of the Hatch machine, what, if anything, was done toward shaping the counter after it came from the machine, and when did you commence to use such shaping?

Ans. We did no shaping to counters after they came from the Hatch machine, as far as I can recollect.

Int. 9. When did you first begin to use the Coté machine, if at all, and what, if any, shaping did you give to the counters after they came from that machine?

Ans. I think we started the Coté machine in May, 1874, and the counters from the Coté machine were always shaped, unless it might have been samples or some few odd counters. It was never the intention of the patentee or of the licensees to use the Coté machine without shaping the counters afterwards before putting them upon the market.

With the first sample machine furnished by Mr. Coté there was also sent a machine for shaping over the counters, this we used from the first for some months, afterwards we made a different apparatus which we used to some extent for shaping over counters; and in February, 1875, I think, Mr. Coté sent us a more perfect machine for shaping, which he afterwards patented in the U. S. Before we received the last-mentioned machine, some of the counters we made were shaped by hand, as we had not a sufficiency of machines to shape them on.

183 Int. 10. Will you look at the counters now shown you, marked Complainant's Exhibits Spencer No. 1, Spencer No. 4, Hughes No. 5, and Hughes No. 6, and state whether or not such counters would have been merchantable and adapted to the trade in 1872 and 1873?

Ans. I don't think they would have been merchantable or adapted to the trade at that time. I don't think any manufacturer would have offered such counters to the trade.

Int. 11. Why not?

Ans. Exhibit Hughes No. 5 have no heel-seat that is available for fastening them to the sole of the shoe unless they are lasted over in a new place, which would be more difficult than if they were flat. One great objection to the other exhibits mentioned is the fact that they have no well-defined heel-seat; besides this the notches on many of them would cause the heel-seat of the shoe to be angular instead of a segment of a circle; also nearly all of them flare too much at the top. These opinions are based on my experience in the trade since 1872 and 1873.

Cross-examination by J. E. MAYNADIER, Esq., of counsel for complainants:

Cross-int. 12. Please describe the reshaping-machine which you first spoke of in your answer to int. 9.

Ans. It consisted of a former shaped like the heel part of a last, upon which the counter to be shaped was placed. On each side of this was what I term a wiper, arranged to pass over the former from the heel part towards the front, thus pressing the counter close against the former and changing the circular shape of the counter to one more elongated.

Cross-int. 13. Please describe this wiper a little more fully.

Ans. It consists of a piece of flexible iron or steel pivoted same distance below the last or former. One of these wipers on each side of the former was joined to the other, same distance above the former, where a handle was placed by which it was moved forward from the heel of the former after the counter had been placed thereon.

Cross-int. 14. See if this is substantially right: These two wipers when they were back of the former were inclined toward each other;
184 and the space between their ends was considerably less than the thickness of the former. After the counter was put upon the former, the pivoted frame carrying these wipers was pulled forward and the inner surface of each wiper came against the side of the counter, one wiper on each side, and traveled over the side of the counter, the spring of the wiper causing it to press and rub against the side of the counter as it passed.

Ans. That is not exactly correct. There was no pivoted frame carrying these wipers. The wipers themselves formed the frame, and the last carrying the counter was pressed against the middle of the wipers and not against their ends.

Cross-int. 15. The wipers then were rods of some spring metal, were they not?

Ans. They were oval bars of some spring metal.

Cross-int. 16. You never had but one of these machines, did you?

Ans. Mr. Coté furnished but one. My impression is that we made one or two others somewhat similar, and one heavy machine, entirely different, for reshaping counters.

Cross-int. 17. What became of these machines with the oval wiping-rods?

Ans. I think they were burned when our factory was destroyed by fire, Dec. 19, 1875.

Cross-int. 18. You had no other reshaping-machines except the one with the oval wiping-rods sent you by Coté, and those similar to it that you made yourself, if any, before you got the other machines from Coté, which you described in your ninth answer, did you?

Ans. We made one heavy iron machine, which I spoke of, somewhere about the time we received the second machine from Mr. Coté, whether

before or afterward I cannot say positively. We sometimes shaped the counters over on the Hatch machines, knowing that Russell & Johnson were doing so continuously.

Cross-int. 19. What became of this big iron machine?

Ans. I think the frame of it was used in making a shaper as now used; I presume the other parts are somewhere about our factory.

STEPHEN MOORE.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

(Here follows diagram marked pages 185–6.)

187 127090.

UNITED STATES PATENT OFFICE.

John R. Moffitt, of Chelsea, Massachusetts. Improvement in the manufacture of heel-stiffeners for boots and shoes. Specification forming part of letters patent No. 127090, dated May 21, 1872.

Specification.

To all whom it may concern:

Be it known that I, John R. Moffitt, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented an improved heel-stiffener or counter for boots and shoes, and a new process and machinery for making the same; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In "molding" to shape ready-made counters or stiffeners for heels of boots and shoes made of various materials, but usually of waste bits of leather, a difficulty exists, by reason of the peculiar shape required, in getting an equal or sufficient pressure upon all parts of such counter, so as to get uniform hardness throughout; and also a further difficulty, in getting a true and proper permanent form throughout all parts, because the material will differ in character in different parts of the same counter—some of it, especially in leather, being of a more spongy nature than other parts. This difference or lack of homogeneity prevents an uniform solidity and precludes the true preservation of the shape which a mold may impart.

The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any "molding" process, but also to make a new article of manufacture, viz, a "rolled" counter prepared, solidified, and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a new as well as better article, and admitting of producing the same from material hitherto found too intractable, such as leather-board, sheet metal, &c.

Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving "former," A, devised by me, of a shape adapted to give the desired shape to the counter, and set eccentrically on a shaft, B, the shaft being arranged to have a continuous or a reciprocating rotary movement, either by hand or by power, as desired. Beneath this "former" I place a roller, C, having a profile, as shown, the converse of and conforming to that of the "former," the shaft of the roller having its bearings in the main frame D. The shaft of the "former"

has its bearings in a swing-frame, E. F is a treadle-strap whereby the swing-frame may be pulled down to give any required degree of pressure, and which also permits the eccentric former to rise and fall as in its movements it rides and rolls over the surface of the counter, the counter-piece being placed centrally upon the "former," and being rubbed and rolled as well as squeezed between them while being brought to shape.

If leather-board or pulpy material be used the roll and the "former" should be of metal, in order to give the counter the proper firmness throughout its whole body or surface.

If leather or bits of leather pasted or united together (commonly known as "pan-cake") be used, then the roll or "former," or both, should be of rubber or other material capable of yielding to some extent to adapt itself to the different thickness of the leather, but not yielding enough to prevent the proper compression and compacting of the leather.

In operating the apparatus, the piece for the counter, being properly cut or prepared, is placed on the "former," and, by hand or machinery, a reciprocating rotary motion of something less than an entire revolution is given to its shaft, so as to bring the most or all of the operating surface of the former into action. This action is continued as long, and the amount of pressure given should be as great, as the character of the material being operated upon or the exigencies of the case may demand.

The "former," as will be seen, projects further from its axis on one side than on the other, so as to conform nearly to the general form of the curves of the inside of a shaped counter. This gives a rolling action, in addition to the squeezing, over the whole body of the counter.

The end *g* of the "former" need not be a plane, as shown in Fig. 1, but instead may be rounded as its opposite end, as shown in Fig. 3, so that it may be continuously revolved and in either direction. In such case I prefer to place the shaft through its center or equally distant from both its ends.

Instead of a single roll a pair of auxiliary rolls may be used,
188 as shown in Fig. 4, one on each side of the single one, and each having a yielding support by means of a spring or weight, whereby it may, as the "former" revolves or moves, be forced up against the material being rolled to shape, and serve to hold it close against the "former," the weights or springs allowing such auxiliary rolls to recede as the motion of the "former" may demand.

The roll or rolls may be made up, if desired, of a series of rings, instead of being solid.

Fig. 5 represents a shaped stiffener for a boot or shoe heel.

I claim—

1. The described apparatus for rolling to shape heel-stiffeners or counters.

2. I also claim, as a new article of manufacture, heel-stiffeners or counters shaped and compacted by a rolling action, as described.

3. I also claim the process herein described of shaping and setting to shape heel-stiffeners or counters by rolling, as distinguished from molding.

JOHN R. MOFFITT.

Witnesses:
W. BRADFORD.
WILLIAM FITCH.

(Here follow 2 diagrams marked pages 189–192.)

193 UNITED STATES PATENT OFFICE.

John R. Moffitt, of Chelsea, Massachusetts. Improvement in the manufacture of heel-stiffeners for boots and shoes. Specification forming part of letters patent No. 127090, dated May 21, 1872; reissue No. 6162, dated December 8, 1874; application filed November 23, 1874.

To all whom it may concern:

Be it known that I, John R. Moffitt, of Chelsea, State of Massachusetts, have invented an improved heel-stiffener or counter for boots and shoes, and a new process and machinery for making the same; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In molding to shape ready-made counters or stiffeners for heels of boots and shoes made of various materials, but usually of waste bits of leather, a difficulty exists, by reason of the peculiar shape required, in getting an equal or sufficient pressure upon all parts of such counter, so as to insure uniform hardness throughout, and also a further difficulty in getting a true and proper permanent form throughout all parts, because the material will differ in character in different parts of the same counter, some of it, especially in leather, being of a more spongy nature than other parts. This difference or lack of homogeneity prevents a uniform solidity, and precludes the true preservation of the shape which a mold may impart.

The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any molding process, but to make a rolled counter, prepared, solidified, and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a better article, and admitting of producing the same from material hitherto found too intractable, such as leather-board, sheet metal, &c. Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving former, A, devised by me, of a shape adapted to give the desired shape to the counter, and set on a shaft, B, the shaft being arranged to have a continuous or a reciprocating rotary movement, either by hand or by power, as desired. Beneath this former I place supports or rollers, C, C^1, and C^2 (see Figs. 4 and 5), each having a profile, as shown, the converse of and conforming to that of the former. The shaft of the former has its bearings in a swing-frame, E. F is a treadle-strap, whereby the swing-frame may be pulled down to give any required degree of pressure, and which also permits the former to rise and fall as in its movements it rides and rolls over the surface of the counter, the counter-piece being placed centrally upon the former, and being rubbed and rolled as well as squeezed between them while being brought to shape. If leather-board or pulpy material be used, the roll and the former should be of metal in order to give the counter the proper firmness throughout its whole body or surface. If leather or bits of leather pasted or united together (commonly known as "pancake") be used, then the roller former, or both, should be of rubber or other material capable of yielding to some extent to adapt itself to the different thickness of the leather, but not yielding enough to prevent the proper compression and compacting of the leather.

In operating the apparatus, the piece of the counter, being properly cut or prepared, is placed on the former, and, by hand or machinery, a

reciprocating rotary motion of something less than an entire revolution is given to its shaft, so as to bring the most or all of the operating surface of the former into action. This action is continued as long, and the amount of pressure given should be as great, as the character of the material being operated upon or the exigencies of the case may demand. The end *g* of the former need not be a plane, as shown in Fig. 1, but instead may be rounded at its opposite end, as shown in Fig. 3, so that it may be continuously revolved and in either direction. Each of the rolls C^1 C^2 has a yielding support by means of a spring or weight, whereby it may, as the former revolves or moves, be forced up against the material being rolled to shape, and serves to hold it close against the former, the weights or springs allowing such auxiliary rolls to recede as the motion of the former may demand.

The roll or rolls may be made up, if desired, of a series of rings instead of being solid.

My rolling action operates upon the material being formed in a manner quite different from a mere squeezing and crimping action. By my method of treatment the whole surface is rolled, and consequently, as nearly as may be, equally treated, and the particles of the 194 blank are not simply pressed by a pressure in only one or two lines of direction, whereby a part of the stock shall be greatly compressed and the greater portion of it compressed but little, if any, but, on the contrary, the rollers act on all parts coming between their peripheries, and in addition give a rubbing and drawing action upon the heel-seat or flange, and around the angle or curve which it makes with the body of the counter. The effect of this is that as the former turns it presses forward the particles which compose the material, tends to alter their relative positions, and to give them a new set by the progressive pressure imparted to them; and the repeated rollings, whether continuously in the same direction or first in one and then in the other direction, tend to intensify and confirm this set, resulting in the production of a counter superior to any heretofore known to me, and having new characteristics, such as greater fixedness of shape, greater smoothness of surface, more uniformity of character and compactness throughout, and the almost entire avoidance of perceptible puckers or crimps.

Fig. 6 represents a shaped stiffener for a boot or shoe heel.

I claim—

1. In a machine for making counters or stiffeners for boots and shoes, a turning or revolving former, in combination with mechanism for holding and shaping the blank over it.

2. The revolving or turning counter-former A, in combination with a supporting roll or rolls for rolling, or for rolling and flanging blank-stock into heel-stiffeners, substantially as shown and described.

3. The process described of forming the heel-seat of a counter by means of a former having a motion about a center, and which gives to the heel-seat a drawing or rubbing action against a flange or bearing surface, in addition to the rolling action.

JOHN R. MOFFITT.

Witnesses:
GEO. T. SMALLWOOD, JR.
JOHN ROBY.

(Here follows diagram marked pages 195 & '6.)

197 UNITED STATES PATENT OFFICE.

Louis Coté, of St. Hyacinthe, Canada. Improvement in machines for forming boot and shoe stiffeners. Specification forming part of letters patent No. 147906, dated February 24, 1874; reissue No. 5896, dated June 2, 1874; application filed May 16, 1874.

To all whom it may concern:

Be it known that I, Louis Coté, of St. Hyacinthe, in the province of Quebec, of the Dominion of Canada, have invented a new and useful machine for forming or shaping boot and shoe counters or stiffeners, and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings.

The invention or machine consists, mainly, of a rotary head of a spherical, spheroidal, or sphero-cylindrical shape, fixed upon and concentrically with a rotary shaft, in combination with a stationary mold, correspondingly or approximately so concaved, whereby, by the revolution of the said rotary head within the mold, a piece of leather of suitable form introduced between them may be drawn into and through the concavity of the mold, and receive a curved form lengthwise, and withdrawn, and thereby be adapted for use as a stiffening for a boot or shoe. The invention also consists in such a rotary head and stationary mold, and an elastic cushion or springs arranged underneath the mold, and for it to rest on, in order that the mold, while the leather or blank may be passing through it, may yield and accommodate itself to the said leather or blank as it may vary in thickness. The invention further consists in the combination of such a rotary head, stationary mold, and elastic cushion or bed, with a support-plate and adjusting-screws applied thereto, and a bed-plate or bar, all being as hereinafter explained, and as shown in the accompanying drawings, of which—

Figure 1 is a front elevation of the machine. Fig. 2 is a transverse section, and Fig. 3 a longitudinal section of the rotary head, its shaft, the mold, the elastic cushion and its supports. Fig. 4 is a side view of the rotary head and its shaft.

The blank, or piece of leather or material to be bent by the machine, is usually semi-elliptical in form, or approximately so, and by being subjected to the action of the machine will not only be curved longitudinally and laterally concavo-convex, but will be formed with a plaited lip or flange.

In the drawings A denotes the frame for supporting the operative parts, especially the shaft B, carrying the rotary-head b^2, arranged on it as represented. The shaft is provided with a pulley, b^1, or other suitable means of revolving it. The mold shown at C is a metallic block, formed with a concavity, the arc of a circle in its transverse section, and in other respects the counterpart or approximate counterpart of that portion of the head which is within it, all being as shown. This mold placed underneath the head rests on a cushion-plate or block D, of India rubber, supported on a metallic plate, x. The plate x rests on screws a^2 a^2, screwed into and through the bar a^1 of the frame A.

In Fig. 2 the direction of revolution of the head is denoted by an arrow, the mold where it is first to receive the leather being rounded or made with a mouth, as shown at c'.

Those parts of the mold and the head by which the plaited lip or flange is produced are shown at b^3 in Fig. 3.

In using the machine the sheet or piece of leather is to be introduced endwise into the mouth c', when it will be at once seized by the rotary

head and drawn through the mold, and in passing through the mold the piece will be bent, flanged, and plaited, or reduced to the requisite shape.

If desirable the head may be grooved on its outer surface to facilitate its grasp or hold on the leather or blank. The inner surface of the mold, however, should be very smooth.

What I claim as my invention is as follows:

1. The combination of the rotary shaft B, the head b^2, and the mold C, all substantially as described.

2. The combination of the shaft B, the rotary head b^2, the mold C, and the elastic cushion D, supported on a bed or plate, x.

3. The combination of the rotary shaft B, head b^2, the mold C, elastic cushion, the support-plate x, bar a^1 and adjusting-screws a^2, all being substantially as explained.

LOUIS COTÉ.

Witnesses:
R. H. EDDY.
S. N. PIPER.

(Here follows diagram marked page 198.)

199 UNITED STATES PATENT OFFICE.

Louis Coté, of St. Hyacinthe, Quebec, Canada. Improvement in machinery for forming stiffeners for boots and shoes. Specification forming part of letters patent No. 147906, dated February 24, 1874; reissue No. 5896, dated June 2, 1874; reissue No. 7356, dated October 24, 1876; application filed July 31, 1876.

To all whom it may concern:

Be it known that I, Louis Coté, of St. Hyacinthe, of the province of Quebec, of the Dominion of Canada, have invented a new and useful machine for and improvement in the art of forming or shaping boot or shoe counters or stiffeners, and do hereby declare the same to be described as follows, reference being had to the accompanying drawings, of which—

Figure 1 is a front elevation of the machine. Fig. 2 is a transverse section, and Fig. 3 a longitudinal section of the rotary head, its shaft, the mold, the elastic cushion, and its supports. Fig. 4 is a side view of the rotary head and its shaft.

The invention or machine consists, mainly, of a rotary head of a spherical, spheroidal, or sphero-cylindrical shape, fixed upon and concentrically with a rotary shaft, in combination with a stationary mold, correspondingly or approximately so concaved, whereby, by the revolution of the said rotary head within the mold, a piece of leather of suitable form introduced between them may be drawn into and through the concavity of the mold, and receive a curved form lengthwise, and be withdrawn, and thereby be adapted for use as a stiffening for a boot or shoe.

The invention also consists in such a rotary head and stationary mold, and an elastic cushion or springs arranged underneath the mold, and for it to rest on, in order that the mold, while the leather or blank may be passing through it, may yield and accommodate itself to the said leather or blank as it may vary in thickness.

The invention further consists in the combination of such a rotary

head, stationary mold, and elastic cushion or bed with a support-plate and adjusting-screws applied thereto, and a bed-plate or bar, all being as hereinafter explained, and as shown in the accompanying drawings.

The invention further consists in the art or process herein described of setting to shape a heel counter or stiffener, such consisting in pressing the blank, by means of a roller or former, against a stationary concave molding-surface, and at the same time moving or sliding such blank along against such surface, all being essentially as set forth.

The blank or piece of leather or material to be bent by the machine is usually semi-elliptical in form, or approximately so, and by being subjected to the action of the machine will not only be curved longitudinally and laterally concavo-convex, but will be formed either with or without a plaited lip or flange, as may be desirable.

In the manufacture of a counter or heel-stiffener it is important that the body or part above the flange should have a permanent set of a concave shape, which cannot be accomplished with dies as commonly used, as the material, especially if of leather-board, on being released therefrom, has a tendency to resume its normal shape, in consequence of its inherent elasticity. Heating the dies only partially overcomes the difficulty. My process effectually accomplishes the desired result, owing to the friction on the outer surface of the counter, and the heat generated in forcing the counter through the mold by the roll or form, which at the same time presses it into the mold, and aids in giving to the counter its proper shape.

In the drawings, A denotes the frame for supporting the operative parts, especially the shaft B, carrying the rotary head b^2, arranged on it as represented. The shaft is provided with a pulley, b^1, or other suitable means of revolving it. The mold (shown at C) is a metallic block, formed with a concavity, the arc of a circle in its transverse section, and in other respects the counterpart or approximate counterpart of that portion of the head which is within it, all being as shown. This mold, placed underneath the head, rests on a cushion plate or block, D, of Indian rubber, supported on a metallic plate, x. The plate x rests on screws a^2 a^2, screwed into and through the bar a^1 of the frame A.

In Fig. 2 the direction of revolution of the head is denoted by an arrow, the mold, where it is first to receive the leather, being rounded, or made with a mouth, as shown at c'. Those parts of the mold and the head by which the plaited lip or flange is produced are shown at b^3 in Fig. 3.

200 In using the machine, the sheet or piece of leather is to be introduced endwise into the mouth c', when it will be at once seized by the rotary head, and drawn through the mold. The piece will be bent, flanged, and plaited, or reduced to the requisite shape.

If desirable, the head may be grooved on its outer surface to facilitate its grasp or hold on the leather or blank. The inner surface of the mold, however, should be very smooth.

I do not claim the heel-rand-turning machine described in the United States patent No. 138257, dated April 29, 1873; such machine being constructed and operating very differently from the heel-counter or stiffener forming machine hereinbefore specified.

What I claim as my invention is as follows:

1. The combination, with the continuously-moving former b^2, of the stationary die or mold C, formed to impart both end and peripheral compression to a counter-blank inserted between the former and die, substantially as and for the purpose set forth.

2. The combination of the shaft B, the rotary head b^2, the mold c, and the elastic cushion D, supported on a bed or plate, x.

3. The combination of the rotary shaft B, head b^2, the mold c, elastic cushion, the support-plate u, bar a^1, and adjusting-screws a^2, all being substantially as explained.

4. The process of forming and setting heel-stiffeners or counters for boots and shoes, consisting in subjecting the blank to compression between a continuously-moving former and a stationary die, whereby both rolling and molding action is obtained at one and the same operation.

LOUIS COTÉ.

Witnesses:
M. E. BERNIER.
ROBERT DÉ CHÊNES.

201 ADDITIONAL EVIDENCE FOR DEFENDANTS.

Taken by order of the court pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before me.

THOMAS H. WAKEFIELD,
Special Examiner.

BOSTON, *Dec.* 5, 1878.

Present: Edward F. Hodges, Esq., of counsel for complainant; Thomas L. Wakefield, Esq., of counsel for defendants.

Deposition of William C. Wise.

BOSTON, *Dec.* 5, 1878.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants.

Int. 1. State your name, age, residence, and occupation.

Ans. William C. Wise; thirty-four years of age; Weston, Massachusetts, and machinist.

Int. 2. How long have you been a machinist, and where have you been employed mostly?

Ans. Fifteen years. Part of my time with Bisbee & Endicott, at Chelsea, and part of my time with William F. Spinney & Co., at Chelsea, and C. W. Melcher and G. N. Spinney, manufacturers of rubber counters, Lynn.

Int. 3. Where were you employed, and in what business, in the year 1867?

Ans. With Bisbee & Endicott, Chelsea, as machinist.

Int. 4. How long were you employed by Bisbee & Endicott; from what time to what time?

Ans. I commenced work for Bisbee & Endicott about May 1, 1867, up to 1872.

202 Int. 5. Whether or not while you were so employed at Bisbee & Endicott's you did any work on machines of any kind for John R. Moffitt, and, if so, when was it, and on what machines?

Ans. In May, 1867, I went to work on building machines for making metallic casings, and worked about six months on the same.

Int. 6. Under whose direction and for whom was this work done named in your last answer?

Ans. Under Mr. Moffitt's direction. I do not know who the parties were the machines were made for.

Int. 7. For what use were the metallic casings made?

Ans. They were made to fasten on the boot and to receive a piece of solid rubber for a tread.

Int. 8. Please look at the Exhibit Wise No. 1, now before you, and state what that is.

Ans. Wise No. 1 is a heel-casing made by me in 1867. (The heel-casing referred to is offered in evidence and marked Exhibit Wise No. 1, T. H. W., examiner.)

Int. 9. Please look at the exhibit marked Moffitt No. 3, and state what that is.

Ans. Exhibit Moffitt No. 3 is a case made by me.

Int. 10. And what is the part connected with that case as shown in said exhibit?

Ans. It is a solid piece of rubber—what I call a tread.

Int. 11. Under whose direction were the heel-casings shown in Exhibit Wise No. 1 and Moffitt No. 3 made, and when and where were they made?

Ans. Under Mr. Moffitt's direction, at Bisbee & Endicott's, Chelsea, in the year 1867.

Int. 12. Please look at the exhibit now shown you, marked Moffitt No. 1, and state whether or not any metallic counters substantially like said exhibit were made by you or by Mr. Moffitt, or any other person to your knowledge, at Bisbee & Endicott's in 1867, or at any other time.

Ans. There was not any made by me, and I never knew of any being made by anybody, and never see one before until within a few weeks ago this Exhibit Moffit No. 1 was shown to me by Mr. Moore,
203 and it was impossible for this Exhibit Moffitt No. 1 to be made from the machine made by me in 1867.

Int. 13. Will you now look at the exhibit marked Machine No. 3, and state what it is, and how it corresponds with or differs from the machine made by you under the direction of Mr. Moffitt, in 1867, at Bisbee & Endicott's, as stated by you?

Ans. The horizontal part of this machine looks like part of the machine made by me in 1867; the other parts are entirely new to me. The pressure-bar is something new, as on the old original machine there was nothing of the kind on it. I see that the rolls are changed also. On this Exhibit Machine No. 3 there is no shoulder or collar on the convex roll which was on the old original machine. The power part of this Exhibit Machine No. 3 is entirely different from the original machine; the original machine only had two gears with a crank to drive the rolls, as this exhibit machine has got four gears and a crank.

Int. 14. Please point out the part named by you in your last answer as the horizontal part which is like the original machine made by you.

Ans. This is it (referring to the horizontal block in which the rolls are journaled).

Int. 15. Will you point out in said exhibit the part described by you in your 13th answer as the pressure-bar, which you say was wholly wanting in the original machine as made by you under the direction of Mr. Moffitt?

Ans. This is what I call the pressure-bar (being the part presenting an edge between the convex and concave rolls), which was not on the original machine.

Int. 16. Please state whether or not the arm to which the pressure-bar is bolted, and this, which the journals of the rollers pass, was on

the original machine as made by you under Mr. Moffitt's direction as you have stated.

Ans. As I have stated before, there was nothing of the kind on the original machine.

Int. 17. Will you now look at the exhibit marked Wise Model, T. H. W., N. P., and state by whom that was constructed and what it
204 represents? (The model referred to is now put in evidence and marked Exhibit Wise Model, T. H. W., examiner.)

Ans. This model was built by Andrew M. Cary, by my directions, and is substantially the same as the machine built by me in the year 1867, under Mr. Moffitt's direction.

Int. 18. Whether or not you built any other machine for Mr. Moffitt, or under his direction, in 1867, for the purpose of making heel-casings, than the one substantially like said Exhibit Wise Model?

Ans. Yes. I built a number of other machines for making different parts of the heel-casing.

Int. 19. Please state generally for making what other parts of heel-casings such other machines were made.

Ans. One machine I made for doubling the blank over, and one machine for turning the corners and punching the holes in the front of the heel the same as Exhibit Wise No. 1, and also a machine for making a bead on the edge of the heel. There was one more machine made by some of Bisbee & Endicott's men, for punching out the blanks, but never was finished.

Int. 20. Please explain a little more fully what part of the blank was to be doubled over for which the machine was made, mentioned in your last answer.

Ans. Exhibit Wise No. 2 is a pattern from which Exhibit Wise No. 1 was made. A blank made from this pattern is placed in between two jaws made the shape of Exhibit Wise No. 2, and one-half of the blank is turned over so as to make it double, and then it is passed through Exhibit Wise Model, the rolls giving the shape or part of the shape the same as Exhibit Wise No. 1. (The pattern referred to is put in evidence, and marked Exhibit Wise No. 2, T. H. W., examiner.)

Int. 21. Please state whether or not Exhibit Wise No. 2 is one of the patterns used by you for making said heel-casings for Mr. Moffitt, as stated by you.

Ans. Wise No. 2 is the pattern that the blank of Exhibit Wise No. 1 was made from.

Int. 22. You have stated in substance that a metallic counter like Exhibit Moffitt No. 1 could not have been made on that machine made by you for Mr. Moffitt, please state why it could not. (Referring to Exhibit Wise Model.)

205 Ans. For the reason that on the original machine the convex roll had a shoulder or collar, and by passing a blank through the rolls of the original machine it would not form a base as is on the Exhibit Moffitt No. 1.

Int. 23. For what purpose was the shoulder or collar shown on the convex roll of Exhibit Wise Model made?

Ans. To hinder the casing from running off of the edge of the rolls and being cut, and also to make an even edge.

Int. 24. For what purpose was the groove shown on the concave roll of said Exhibit Wise Model made?

Ans. So as to allow the shoulder of the convex roll to run up close to the edge of the concave roll.

Int. 25. State whether or not in that original machine, so made by

you for Moffitt, there was any space between the base of the convex rolls and the sleeve or bushing on which it rests, as is shown between the base of the convex roll and the arm to which the pressure-bar is attached, as shown in Exhibit Machine No. 3.

Ans. On the original machine there might have been a little space between the base of the convex roll and the shoulder of the bushing. That would depend altogether on the workmanship of the machine. As I have stated before, there was nothing of the kind on the original machine as there is on Exhibit Machine No. 3.

Int. 26. Whether or not any person other than yourself made any of the heel-casings in 1867 then at Bisbee & Endicott's?

Ans. There were no other persons made any casings but myself.

Int. 27. Whether you made more than one machine for Moffitt in 1867 substantially like Exhibit Wise Model?

Ans. I made only one machine.

Int. 28. Did you make any part of Exhibit Machine No. 3, except the horizontal part through which the journals of the rolls pass?

Ans. No other parts that I can swear to.

Int. 29. Did Mr. Moffitt in any way inform you that said machine made for him, as you have stated, was for the purpose of making metallic counters?

Ans. No, sir, he did not say anything of the kind, or anything about metallic counters.

206 Int. 30. State, if you know, what became of that machine after it was made by you in 1867?

Ans. After some experimenting the work on the machines was stopped, and some time afterward the machines were sold by Bisbee & Endicott at auction and bid in by one of their men. The machines were stowed away in different parts of the shop, and some were thrown in the junk heap, or in the old rubbish in the shop.

Int. 31. Whether or not any part of that machine was used for any purpose by Bisbee & Endicott after said sale; and, if so, what part and for what purpose?

Ans. The horizontal part of machine No. 3 was some time afterwards put on a lathe for a cross-feed, and remained there until it was taken off by some of Mr. Moffitt's men and rebuilt as it is now.

Int. 32. State, if you know, what became of the rolls made for and used in that original machine.

Ans. I do not know what became of the rolls or any other parts of the machine after the machine went from my care.

Int. 33. Who, if any other persons, in the employ of said Bisbee & Endicott were employed in the same room with you at the time you made said machine and heel-casings under the direction of Mr. Moffitt as you have stated?

Ans. There was Mr. Andrew M. Cary, John Ashman, Gustavus S. Salisbury, and a number of others—the names I do not recollect. These men all worked for Bisbee & Endicott, but not under Mr. Moffitt's directions, and nobody that I know of worked for Mr. Moffitt at that time, only myself, with one exception. The machine built for punching the blanks, the same as Exhibit Wise No. 2, was built by some of Bisbee & Endicott's men. This machine never was finished for the work it was intended for.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 34. Will you describe as well as you can the collar on the

convex roll which was on the original machine, referring to your answer to the 13th interrogatory?

Ans. The collar on the original machine was substantially the same as the collar on the convex roll of the Wise model.

207 Cross-int. 35. When and where and by whom was the Wise model made?

Ans. This model was made by Andrew M. Cary, at Lynn, some three or more weeks ago—I do not remember the time exactly; it may have been a little later than three weeks.

Cross-int. 36. Was it made from drawings; and, if yea, who furnished them?

Ans. No, sir; it was not.

Cross-int. 37. If you know what instructions were furnished for the making this model, say what they were and by whom furnished.

Ans. When this model was made I gave Mr. Andrew M. Cary orders to go to work and make the machine as near the original machine as he could make it. I also gave him Exhibit Wise No. 1 to make the convex and concave rolls from, and after the machine was finished it was as it is now, without any changing. As I have said before, the machine is substantially like the original.

Cross-int. 38. Did you give him dimensions or instruct him as to any of the numbers that now appear on this Wise model?

Ans. No, sir; I did not give any particular dimension. As I have said before, this machine, Wise model, was made from recollection.

Cross-int. 39. If this model was made by Mr. Cary without instructions or aid from you, how do you know it was made from recollection?

Ans. Only that it was not made from any drawings or any particular dimensions.

Cross-int. 40. How do you know Mr. Cary had no drawings?

Ans. Only that there never was any drawings made of it.

Cross-int. 41. Do you not mean simply to say that you know of no drawings?

Ans. I do not know of any drawings.

Cross-int. 42. When this model was made was Mr. Cary in your employment?

Ans. Yes, sir; he was.

Cross-int. 43. How long had he been in your employment when you first spoke to him about making this model?

Ans. He did not work for me until he went to work on this model, and worked, I think, about three days, more or less.

208 Cross-int. 44. When did you obtain Exhibit Wise No. 1?

Ans. This Exhibit Wise No. 1 is one of the last heel-casings made by me in 1867.

Cross-int. 45. Please answer cross-int. 44.

Ans. As I have stated before, Exhibit Wise No. 1 is one of the casings made by me in 1867, and has been in my tool box until it was left here.

Cross-int. 46. When did you obtain Exhibit Wise No. 2?

Ans. Wise No. 2 is a pattern made by me in 1867, and some little time afterwards I lost this pattern and found it again in a junk-heap while passing from Bisbee & Endicott's machine-shop to William F. Spinney's counter factory, Chelsea.

Cross-int. 47. When did you find it?

Ans. I cannot state the date exactly, but some time after 1872.

Cross-int. 48. If you can, please state whether it was not so found after 1876?

Ans. No, sir; it was not in 1876; it was some time during the year of 1872, I think.

Cross-int. 49. What reason have you for fixing it in 1872?

Ans. No particular reason, only that I have had possession of it all the time except the time I lost it.

Cross-int. 50. Why did you keep it?

Ans. For no particular reason except for a keepsake, as in making the blank I was very particular in making it perfect. When I found the blank it was bent out of shape, as you will see by the looks of it, and I straightened it out.

Cross-int. 51. Is that Exhibit Wise 2 a pattern for the blank, or a blank from which the casings were made?

Ans. That is the pattern that the blanks were made from for making the heel-case Exhibit Wise No. 1.

Adjourned at 1.30 to 2 o'clock.

Resumed at 2 o'clock.

Cross-int. 52. Please examine Exhibit Machine 3, and state what part of it you made, and what part was made by others, and by whom?

Ans. The horizontal part in which the rolls are held is the part made by me; the other parts were make by some of Bisbee & Endi-
209 cott's men. I think one of the men was Mr. Elijah Endicott, and the other one was Mr. Henry Emery. There may have been some others at work on this machine. I have neglected in stating in regard to this Wise model that the rough parts of this Exhibit Wise Model was sent to me by Mr. Moore, and he instructed me to build the machine as the original one was. The rolls and shafts were wrong and I had new ones made, the same as those in the Exhibit Wise Model.

Cross-int. 53. The instructions you gave Mr. Cary, to which you have before testified, related, then, only to the rolls and shaft of the Exhibit Wise Model, did they; or, if not, to what did they relate?

Ans. Yes, sir; it was.

Cross-int. 54. The said horizontal part of Exhibit Machine 3 is of cast or wrought iron?

Ans. Cast.

Cross-int. 55. What work did you do upon it yourself?

Ans. I built the solid part of the machine which holds the rolls and shafts. The bushings that are in the solid part of the machine which the rolls run in may have been made by me also; but I am not sure whether they were or not.

Cross-int. 56. You mean that you did the work upon the casting, not that you moulded the casting, do you not?

Ans. Yes, sir.

Cross-int. 57. What part of Exhibit Machine 3 was used upon the lathe as a cross-feed?

Ans. The part holding the shafts and rolls. That is all that I know of.

Cross-int. 58. Did you put it on the lathe, or see it after it was on?

Ans. No, sir; I did not put it on the lathe, but I saw it when it was on the lathe quite often as I passed in and out of the shop, but paid no particular attention how it was put on.

Cross-int. 59. Were the rolls and shafts on it then?

Ans. No, sir; they were not, but were taken off by somebody and used for some other purpose.

Cross-int. 60. Were there any gears on it then?

Ans. I cannot say.

210 Cross-int. 61. How did it serve as a cross-feed on the lathe then? Please explain.

Ans. I cannot say, sir, as I took no particular notice of its running qualities.

Cross-int. 62. As I understand you, the only thing you saw in use on the lathe as a cross-feed was the cast-iron block in which the rolls are journaled, without either rolls, shaft, or gears. Is this what you intend to say?

Ans. That is all I took notice of.

Cross-int. 63. When you used a machine which was a part of Exhibit Machine 3, in 1867, to make heel-casings for Mr. Moffitt, how were the rolls made to turn?

Ans. Substantially the same as the Wise model.

Cross-int. 64. Will you explain how the rolls in the Wise model are made to turn without adding some device not now shown?

Ans. There is a handle that belongs to this Wise model, which is not with it now. This handle is put on the concave roll and keyed on; the machine then is placed in a vise, the cast-iron part or block standing in a perpendicular position, and used in that way for turning up the metallic casings.

Cross-int. 65. The machine on which you made the said casings, in 1867, was held in a vise, was it, and the rolls turned by means of a handle keyed on to the concave roll?

Ans. Yes, sir; it was.

Cross-int. 66. Who, if any one, aided you in making those heel-casings in 1867?

Ans. As I have stated before, no one made any heel-casings that I know of. In fact I am sure that nobody else had anything to do with making the casings but myself.

Cross-int. 67. You turned the crank or handle and manipulated the blank alone, did you?

Ans. Yes, sir; I did.

Cross-int. 68. Had you any difficulty in your first efforts to make casings in this way?

Ans. Yes, sir, I had; in fact I was experimenting all the time while on these machines, so much so that the blanks cut from Exhibit Wise 2 were cut out with a shears and finished with a file. The
211 rolls I made from a larger size to a smaller size roll. Exhibit Moffitt No. 2 is one of the large size casings that were made by the rolls before being turned down to make the casing Wise No. 2; I don't know but what there was two or three larger sizes than Exhibit Moffitt No. 3.

Cross-int. 69. Under whose orders or directions did you thus reduce the size of the rolls?

Ans. I reduced the size of the rolls from my own judgment, as directions of that kind were not necessary from Mr. Moffitt.

Cross-int. 70. He generally directed this work, did he not?

Ans. Yes, sir; he did.

Cross-int. 71. Did he not witness your experiments in making these casings?

Ans. Yes, sir, he did, and was there with me pretty much all the time.

Cross-int. 72. Please explain in detail how you made a heel-casing upon the machine in the vise, as you have stated? Tell us how you stood in reference to the machine, how you held the blank, and turned the handle.

Ans. After Exhibit Wise No. 2 was doubled over and pressed down to its proper place, the blank taken from pattern Wise No. 2 was placed in between the rolls, the round edge of the blank next to the flange of the convex roll. It was then passed back and forth between the rolls; the thumb being pressed on the blank gave the cir-*circ*ular shape to the casing. I should have said that the rolls were open just enough to receive the blank about an inch from the end of said blank, and there the rolls were pressed down so as to get the concave on the casing. This casing was rolled back and forth within an inch of each end, or somewhere about an inch, until the concave and circle was accomplished. The rolls were then opened and the casing taken out. You will notice on Exhibit Wise No. 1 that the part nearest the corners of the casing is not the same as the concave on the other part of the heel.

Cross-int. 73. What do you mean by opening the rolls? Explain it by referring to the model.

Ans. That is, that the bearings which the rolls and shaft run
212 in are in an eccentric form. By applying a wrench to these bearings the rolls can be open and shut.

Cross-int. 74. At the same time that you pressed your thumb upon the blank to give it the concave form you turned the crank, did you?

Ans. I did not press my thumb on the casing to get the concave form, but pressed my thumb on the casing to get the circular shape of the casing. I also turned the machine at the same time that I pressed my thumb on the casing.

Cross-int. 75. The blank prepared as before described by you and passed between the rollers would be carried back and forth between them by the turning of the crank backward and forward, and receive the form of the rolls without being pressed upon either of them by the hand, would it?

Ans. No, sir; it would not. The thumb acts as a third roll.

Cross-int. 76. Does not the thumb, then, serve to give the concave form?

Ans. No, sir; it does not. The concave and convex rolls give the convex and concave of the casing.

Cross-int. 77. How many casings did you make in 1867?

Ans. Quite a number; I cannot say how many.

Cross-int. 78. Who prepared the blanks?

Ans. I did.

Cross-int. 79. All of them?

Ans. Well, Mr. Moffitt found the stock and I made them—all of them, I mean.

Cross-int. 80. Were you present when the articles were sold at auction before mentioned by you?

Ans. I was in the shop at the time, but was not within hearing of what was said.

Cross-int. 81. You have spoken in your testimony of certain articles being purchased by one of Bisbee & Endicott's men at that auction; how do you know they were so purchased, and who purchased them?

Ans. As I stated before, the machines, as I understood it at the time, were sold at auction, one of Mr. Bisbee's men bidding on them. Who bought the parts I don't know anything about, but sup-

213 posed at the time that Bisbee owned them, as some of the machines were put in the scrap heap with a machine, Exhibit Machine No. 3. That is all I know about the sale of the machines.

Cross-int. 82. What you have said about the auction sale and the sale of this machine, then, was matter of hearsay and conjecture, and not of your own knowledge, was it?

Ans. That was all.

Cross-int. 83. Was the machine upon which you made the casings in 1867 thrown on the scrap-heap after the auction sale in just the condition it was when you made the casings on it?

Ans. I cannot say as to that. All I know is I left the machine ready for turning up heel-casings.

Cross-int. 84. When did you so leave it?

Ans. I cannot say exactly when, but I think it was during the summer of 1867. It may have been in the fall.

Cross-int. 85. Where did you leave it, and where was it from that time until the auction sale?

Ans. I don't remember where I left it. All I remember is that the different machines, as I have stated before, were put in different parts of the building, and I suppose were moved from place to place up to the time that the cast-iron part of the original machine for turning heel-casings was put on the lathe for a cross-feed.

Cross-int. 86. When was that put on the lathe?

Ans. I don't recollect exactly when it was put on, but think it was put on somewhere in the year 1872. It may have been put on before or after, I am not sure which.

Cross-int. 87. Did you ever see it after 1867 until you saw that part used as a cross-feed?

Ans. Yes, sir. I have seen it quite a number of times in the scrap-heap while looking after pieces of iron to do different kind of work.

Cross-int. 88. Explain what you mean by scrap-heap.

Ans. In the shop there is a room where all of the old rubbish, such as iron, is put, and when we machinists wanted a piece of iron to do a job with we generally went to this place to find something of that kind.

Cross-int. 89. Was it in a room in the building?

214 Ans. Yes, sir; it was. The building was two or three different buildings joined together.

Cross-int. 90. Were there not in that room many machines and parts of machines of value in the shape in which they then were?

Ans. None that I know of.

Cross-int. 91. State where that room was, so that we can identify it.

Ans. That room was in an old building on Williams street, used at one time for making the Wilder safe.

Cross-int. 92. Was it not then used as a part of Bisbee & Endicott's machine-shop, and is it not now so used?

Ans. I think at the time it was considered such, but I don't think that there were any tools in the building at that time, that is, in 1867, and it is used at present as part of the shop belonging to Bisbee & Endicott. I shall not swear it was used as a storage-house at that time, but think it was.

Cross-int. 93. Was the room in which this machine was kept upstairs or on the ground floor?

Ans. Upstairs.

Cross-int. 94. You had to pass through doors leading to it, did you not?

Ans. I think at that time that there was a partition between the two buildings, but afterwards it was taken down.

Cross-int. 95. Were there not doors at the stairway and at the entrance to this room?

Ans. Yes, sir, there were, and I think at the time that the doors were in the building that some of this rubbish was in the corner by the stairs, and was afterwards all carried upstairs in this room that I have spoken of before.

Cross-int. 96. What do you mean by "this rubbish?" Explain.

Ans. Old iron, as I have stated before. I don't mean old junk, for there were pieces of iron that were very useful for different jobs.

Cross-int. 97. Did you see the machine on which you made casings, there in the corner?

Ans. Yes, sir; I have seen the machine there a number of times while looking for different pieces of iron for different kinds of work.

Cross-int. 98. Where did you last see it before the year 1878?

215 Ans. The last time I saw the machine was on the lathe. Yes, I did see the machine while Mr. Moffitt was rebuilding it, and had some talk with his man, Mr. Mason, about the machine, or in other words Mr. Mason made some remark to me about this machine. I don't remember what the remark was. He was at that time working on this pressure-bar on the machine Exhibit Machine No. 3.

Cross-int. 99. Where was it when you saw it last before the time named in your last answer?

Ans. On the lathe.

Cross-int. 100. Where last before that?

Ans. In the old scrap-heap.

Cross-int. 101. Where was that scrap-heap, in the room upstairs or by the stairs in the corner?

Ans. It may have been in the room upstairs, or in the corner by the stairs.

Cross-int. 102. Did you never see it in the room upstairs?

Ans. I don't remember now whether I saw it up stairs or down. I think I have seen it in both places.

Cross-int. 103. When you last saw it among the scrap-iron was it in the working condition in which you had used it, or was it dismantled as when it was upon the lathe?

Ans. I don't remember in what condition the machine was when it was in the scrap heap, but when the work on the different machines was stopped this machine was all together and in running condition. What happened to the machine afterwards I paid no particular attention to, only that the machine never was used for anything else except a part of this lathe.

Adjourned to Dec. 6, 1878 at 10 a. m.

Resumed Dec. 6, 1878.

Cross-int. 104. Please state whereabouts the vise was situated in which the machine was made fast when you made the casings in 1867?

Ans. On the bench that I did my work on.

Cross-int. 105. In the common workshop of Bisbee & Endicott, was it?

Ans. It was in the machine-shop of Bisbee & Endicott.

Cross-int. 106. How many men were at work in that room at the times when you made said casings?

216 Ans. About a dozen or fifteen, more or less, I think.

Cross-int. 107. Look at Exhibit Wise No. 1 and tell us when and how that was made. Give each particular.

Ans. Exhibit Wise No. 1 was made in 1867; a blank was made from pattern Exhibit Wise No. 2 and this blank was placed between two jaws, and one-half of it lengthwise was turned over and pressed down double; it was then put in Exhibit Wise Model and then rolled up in part of a circle; it was then placed in another machine, the form something the shape of a heel, and held by two clamps, one on each side; the corners then were turned and punched so as to receive a stay on the inside, the same as in Exhibit Wise No. 1. In some of the heel-casings the rivets holding the inside edge of the casing together were made so as to hold the solid piece of rubber, what I call a tread, from coming out of the heel-casing after it was pressed in. There was one more machine for putting a beading on the upper edge of this Exhibit Wise No. 1. This machine was also held in the vise to accomplish the work on the heel-casing. I have made a mistake in regard to the Exhibit Wise Model. This was done on the original machine made by me in 1867.

Cross-int. 108. Were the jaws mentioned in your last answer part of or a whole machine constructed for the purposes you have described?

Ans. Part of a machine.

Cross-int. 109. Describe it.

Ans. The foundation of the machine was an old pedestal-box of an engine turned bottom upwards, and the different parts I speak of for making the casings were fastened to this pedestal-box.

Cross-int. 110. Explain these parts and how they were made to operate as jaws.

Ans. The jaws for holding the heel-casing were made about the shape of Exhibit Wise No. 1; the outside shape, I mean. These jaws were fastened with pins driven or screwed into the pedestal-box, and a cross-head was attached to the ends of these jaws or levers and worked in a knuckle form. There were also two more clamps attached to this pedestal-box for turning the corners of the casing, and a knife and punches were attached to the same box to cut the ends and punch the holes of said casing. There was a form made the shape of the
217 inside of the casing, and also a bolt and washer to hold the casing down while it was being finished in the centre of this form.

Cross-int. 111. The blank, then, as I understand your description, was in some way bent into a circular or part circular form before it was put between the jaws; is this so?

Ans. Yes, sir; it was.

Cross-int. 112. Were the casings now shown you marked Exhibit Wise No. 1, Moffitt Nos. 2 and 3, made in part upon the machine you have last described?

Ans. The casing of Exhibit Wise No. 1 was made on the machine I have just described. The Exhibit Moffitt No. 2, and also the Exhibit Moffitt No. 3, I am not sure about being made on this machine, but believe, to the best of my knowledge, that these corners were turned in the vise or on a piece of square iron, and finished up afterwards with a file. There was nothing perfect about any parts of the different sized casings except Exhibit Wise No. 1, which, in the pattern, I was very particular about finishing, for the reason that I made a steel punch, from seven-eighths to an inch in thickness, the same as Exhibit Wise No. 2 pattern. This punch I intended at the time to keep run of, but understood afterwards that it was destroyed.

Cross-int. 113. Who made the machine having the jaws, &c., and under whose direction was it made?

Ans. I made the small parts of the machine. The pedestal-box was brought from some place unknown to me. This work was done by me under Mr. Moffitt's directions.

Cross-int. 114. Where is that machine now, or where was it when you last saw it?

Ans. The last time I saw the machine was on the floor of the machine-shop of Bisbee & Endicott, in the year of 1874 or 1875. It may have been later.

Cross-int. 115. Which floor, the ground or second floor?

Ans. The machine-shop floor, the ground-floor being a basement under it.

Cross-int. 116. Was it with the scrap-iron heretofore mentioned?

Ans. No, sir; it was not.

Cross-int. 117. In passing the blank between the rolls did you
218 place the doubled edge next to the base of the rolls, or the other edge?

Ans. The double edge—the round edge of the casing, I mean—run against the collar or shoulder of the convex roll.

Cross-int. 118. Will you now show how you opened rolls in Wise model so as to receive the blank?

Ans. A wrench was made to fit the bushings or bearings which the rolls run in. This bushing or bushings are turned on an eccentric. By turning these bushings one way or the other the rolls were open and shut to receive the blanks.

Cross-int. 119. When the blanks were placed between the rolls, were they then closed by turning them back?

Ans. Yes, sir; they were.

Cross-int. 120. Were they made fast then before the crank was turned; and, if so, how?

Ans. Yes, sir; they were made fast by two set-screws, screwed against the bushings or bearings.

Cross-int. 121. After the blank was placed between the rolls, were they brought back as near together as they now are, or how near?

Ans. It depends altogether on the thickness of the stock about the space between the rolls.

Cross-int. 122. You brought them as near together as the thickness of the stock would permit, did you?

Ans. No, sir; I did not. The stock was placed between the rolls, and the pressure put on gradually. The casing, after passing back and forth in the machine, the pressure was applied again, and so on until the concave on the heel-casing was the same as on the rolls.

Cross-int. 123. Did you in the year 1867 make any other machine, or parts of machines; and, if yea, name one or two.

(Objected to as immaterial, except so far as relates to machines made for Mr. Moffitt.)

Ans. I do not recollect whether I did or not.

Cross-int. 124. Did you spend all your working-time upon the machines you have named?

Ans. I cannot say how much of my time I worked on these machines, not keeping any account of it.

219 Cross-int. 125. Did you make in 1868 any machine or parts of a machine? If yea, name one or two.

(Objected to as immaterial, except so far as relates to machines made for Mr. Moffitt.)

Ans. I did work on some machinery, but I don't recollect what they were.

Cross-int. 126. (Same question as to 1869.)

(Same objection.)

Ans. I probably was at that time working more or less on machinery for making rubber counters, but I cannot say how much. I have been to work on machinery designed by Mr. Moffitt from 1867 up to 1872, more or less.

Cross-int. 127. (Same question as to 1866.)

(Same objection.)

Ans. I never did any work for Mr. Moffitt previous to May 1, 1867. I mean under Mr. Moffitt's directions while in Bisbee & Endicott's employ.

Cross-int. 128. In my previous questions relating to your work upon machinery in the years 1867, 1868, 1869, and 1866, I have referred to all your work upon machinery, and have not confined my questions to work for Mr. Moffitt or under his directions; will you now answer the questions in view of this explanation?

(Same objection.)

Ans. I answer the same way as to 1867. In the years 1865 and 1866 I first went to work for Bisbee & Endicott, and worked a few weeks. I cannot say how long, and cannot say positively to the dates that I have mentioned, whether it was late in the fall of 1865 or in the winter of 1866. The work that I did at that time I do not remember. As to 1868 and 1869 I make the same answer as before.

Cross-int. 129. From 1867 to 1872 how much of your time was expended in work upon machinery under Mr. Moffitt's direction?

Ans. I state as before. I worked a great deal upon machinery designed by Mr. Moffitt. How much of my time I cannot say.

Cross-int. 130. Did you in all that time make any other machine or parts of machines save those designed by Mr. Moffitt? If yea, name one or two.

220 Ans. I did work on quite a number, but cannot say how many different machines there were. I had to work a great deal of my time during those years under Mr. Moffitt's directions. I worked on machines for punching counters, punching out blanks for making counters, and machines for trimming counters.

Cross-int. 131. Turning to the machine on which you made casings in 1867, state whether you made any record of the qualities or devices of that machine or any drawings of any of its parts.

Ans. No, sir; I did not make any records or have any drawings of the said machine or any other machines. I did not make any drawings.

Cross-int. 132. When did you first receive the rough casting now forming a part of Exhibit Wise Model?

Ans. As I stated before, I made a mistake in regard to the time that this machine was finished up. I received the casting in the month of September last. This model, Exhibit Wise Model, was finished Sept. 11, 1878, instead of later, as I stated before.

Cross-int. 133. Where did you first become acquainted with Mr. Stephen Moore, one of the defendants in this case?

Ans. The first time that Mr. Moore called on me was, I believe, last August—somewhere about that time. This is the first time I remember of ever seeing him.

Cross-int. 134. When did you first know of the pendency of this suit?

Ans. I cannot say when it was. It was some time ago; perhaps it may have been a year?

Cross-int. 135. Did you not know of it in 1876?

Ans. I do have a slight recollection of hearing something about some case coming up between Mr. Moffitt and Rogers, but do not recollect who told me anything about it, as I cared but very little about the affair; it may have been about that time, 1876.

Cross-int. 136. Did you not then say you expected to be a witness in this suit against Moffitt, or something to that effect?

(Objected to as immaterial.)

Ans. I do not remember of saying anything of the kind.

221 Cross-int. 137. Did you not then expect to be called as a witness in this suit?

(Same objection.)

Ans. I did not know whether I should or should not.

Cross-int. 138. When and through what means did you communicate to Mr. Moore that you had any knowledge of the subject matter about which you have been giving your testimony?

Ans. As I have stated before, in the month of August last, or about that time, Mr. Moore called on me at Lynn, and inquired about the machine, or about the machine built by me in 1867. He wished me at that time to build a machine the same as the original one, but not having any spare time to work on anything of that kind he sent me different parts of the machine roughly made. I then employed Mr. Andrew M. Cary to work on this Wise model, and make it as the original one was.

Cross-int. 139. Had you not before that time indicated to Mr. Moore in some way that you had information about matters pertinent to his defence, or something to that effect?

Ans. I have no recollection of saying anything of the kind to Mr. Moore before he called on me in August.

Cross-int. 140. Had you not written to him or some one of the defendants or caused them to be informed of the matter before that time?

Ans. No, sir, I did not.

Cross-int. 141. Were you not a witness against Mr. Moffitt, in a suit by him against Spinney and others brought upon one or more patents for counters and counter-machines?

(Objected to as immaterial.)

Ans. Yes, sir, I was.

Noon recess to 1.30.

Cross-int. 142. Please state which of the rolls was uppermost when you passed the blank for the casings through.

Ans. The convex roll.

Cross-int. 143. When, in response to cross-int. 132, you corrected an error you had fallen into in respect to the time when you received the casting now in Exhibit Wise Model, did you make that correction from a written memorandum?

222 Ans. No, sir, I did not.

Cross-int. 144. Did you not refer to a writing to refresh your memory?

Ans. No, sir, I did not until I got to my place of business in Lynn. On my way to Lynn I happened to think over what I had said in regard to Exhibit Wise Model being received three or more weeks ago, which should have been three months or more ago. I happened to think, while thinking this matter over, about the seventh of October Mr. Melcher and Spinney changed their place of business. I then

knew this Exhibit Wise Model must have been made some time previous to Melcher & Spinney's moving their place of business, for the work done on this machine was done when I was in the old place of business. I mean Melcher & Spinney's place of business in Lynn. I afterwards then referred to a memorandum kept by me of the time put on this machine, Exhibit Wise Model.

Cross-int. 145. Did you not take that memorandum from your pocket and refer to it when you made your answer to cross-int. 132?

Ans. Yes, sir, I did.

Cross-int. 146. Are you now in the employ of Melcher & Spinney?

Ans. Yes, sir, I am.

Cross-int. 147. Give their names.

Ans. Charles W. Melcher and Gustavus N. Spinney.

Direct examination resumed:

Int. 148. When in your answer to the 143d cross-int. you state in substance that you did not refer to any written memorandum in making the correction that the machine Exhibit Wise Model was finished up September 11, 1878, instead of about three weeks ago or more, as you had previously stated in your answer to the 35th cross-int., to which of those interrogatories, that is the 143d or the 35th, did you have reference when you said you did not refer to any written memorandum in your answers?

Ans. In saying that I did not refer to my memorandum I misunderstood the lawyer, and thought that he wished to know whether I waited until I got my memorandum before making this change on what I said in regard to Exhibit Wise Model. I have no particular dates of re-
223 ceiving the model. All that I recollect is that after receiving the castings I set Mr. Andrew M. Cary to work on the machine.

Int. 149. In your cross-examination you referred to having employed Mr. Cary to make the machine Exhibit Wise Model according to the original machine you made under the direction of Mr. Moffitt; please state whether or not you talked over with Mr. Cary as to the construction of that particular machine, and whether or not his recollection of it concurred with your own.

(Objected to as incompetent.)

Ans. Yes, sir, I did. Yes, sir, his recollection was about the same, as he took the rolls, roughly turned them down and brought them to me to see if he was right. I found that he was going along all right and ordered him to finish the rolls and to put the machine into running condition.

(Answer objected to as relating to matters between other parties.)

Int. 150. You have stated substantially to a cross-interrogatory that upon Mr. Moore requesting you to make a machine substantially like the one you originally made for Mr. Moffitt, that you employed Mr. Cary to do the work and gave him instructions relating thereto; will you state in substance the conversation between you and Mr. Cary in which those instructions were given?

(Objected to as incompetent.)

Ans. I cannot state what directions I gave to Mr. Cary about the rolls or about making them, as I made no memoranda of the conversation.

Int. 151. Will you please give us the substance of the conversation, as nearly as you can?

(Objected to as before.)

Ans. As I have stated before, I gave the machine or parts of the machine to Mr. Cary, with the heel-casing, to make the rolls and put the machine together like the old original machine, as near as he could recollect. As I have stated before, he roughed the rolls out, put them in their places, did considerable filing and fitting to make the machine run as the original machine run.

Int. 152. You have stated in your cross-examination that you at that time furnished Mr. Cary with a casing, either Exhibit Wise No. 1 or one like it, as a guide by which he should make the rolls for the
224 Exhibit Wise Model; will you explain how such casing would be a guide as to the construction of the rolls?

Ans. When I gave Mr. Cary casing Exhibit Wise No. 1 I told him to make the convex roll to fit the casing, and to make the concave roll fit the convex, and also to try the casing on the convex and concave rolls until he got the circles right to correspond with the casing.

(Answer objected to as not called for by the question and as relating to matters between other parties.)

Int. 153. In case the rolls were so constructed that the convex roll of the model would correspond with the outside concave surface of the casing and the concave roll correspond to the interior convex surface of the casing of Exhibit Wise No. 1, whether or not in your judgment that would indicate that the rolls on the Exhibit Wise Model are substantially the same as the rolls on the machine upon which the casing Exhibit Wise No. 1 was made?

Ans. The reason that I had these rolls made from the heel-casing Exhibit Wise No. 1 was to get the rolls substantially the same as the original rolls that made Exhibit Wise No. 1 casing from. In this case, the rolls being made the concave and convex the same as the casing, Exhibit Wise No. 1 would be substantially the same as the rolls on the original machine.

Int. 154. You have stated in substance in cross-examination that the handle or crank by which the rolls were revolved on the Exhibit Wise Model was keyed to the concave roll; will you please explain more fully how and to what part such crank was keyed?

Ans. When I stated the crank was keyed to the concave roll I meant on the end of the shaft to which this roll is attached. This roll and shaft is one piece of iron.

Int. 155. You have spoken of seeing a Mr. Mason at work on the pressure-bar of Exhibit Machine No. 3; will you explain a little more fully just what you saw Mr. Mason doing in relation to that machine, and when it was, as nearly as you can?

(Objected to.)

Ans. I cannot say what he was doing. I simply saw he had his hand on the pressure-bar, and I thought at the time that he must have been working on the machine, but cannot say what he was doing.
225 This was about in the year 1874 or 1875, or perhaps a year later, say in 1875 or 1876. I cannot say which.

Int. 156. Whether or not the time named in your last answer, when you saw Mr. Mason having his hand upon the pressure-bar, was the time or about the time Mr. Moffitt was having the machine Exhibit Machine No. 3 refitted at Bisbee & Endicott's?

(Objected to as assuming that there has been proof that Mr. Moffitt had said machine refitted.)

Ans. It was that time that Exhibit Machine No. 3 was being rebuilt, and the only time that I saw the machine after it was rebuilt.

Int. 157. You have said in cross-examination that certain parts of

the Exhibit Wise Model were furnished you by Mr. Moore; will you state what parts of the model as it now exists were so furnished?

Ans. The cast-iron block, the two bushings or bearings, two gears and two shafts; that is all.

Int. 158. Do you mean to say that Mr. Moore furnished you the two shafts that are now in said Exhibit Wise Model, or other two shafts which were not used and are not in it?

Ans. No, sir; he did not. Not these rolls and shafts that are in the Exhibit Wise Model at this present time, but furnished two shafts that were not right; that is to say, that there were no rolls on them.

Cross-examination resumed:

Cross-int. 159. How long were you in Bisbee & Endicott's shop on the occasion when you say you saw Mr. Mason with his hand on the pressure-bar?

Ans. I don't know how long; perhaps five or ten minutes, not more than that.

Cross-int. 160. Did Mr. Moffitt tell you he was having the machine Exhibit Machine No. 3 rebuilt?

Ans. No, sir; he did not.

Cross-int. 161. All you saw on that occasion was that Mr. Mason had his hand on the pressure-bar, was it?

Ans. That is all.

Cross-int. 162. Who made the rolls and shafts now seen in Exhibit Wise Model?

Ans. Mr. Andrew M. Cary.

226 Cross-int. 163. Where are the rolls and shafts furnished by Mr. Moore of which you have spoken?

(Objected to.)

Ans. The shafts were returned with the machine, I believe. There were no rolls furnished by Mr. Moore.

Direct examination resumed:

Int. 164. Where was the machine Exhibit Machine No. 3 standing, and how situated, at the time you saw Mr. Mason have his hand on the pressure-bar, as you have stated?

Ans. The machine Exhibit Machine No. 3 was, I believe, fastened on a wooden horse and set on the floor close by Mr. Mason's work-bench, say within six or seven feet.

Int. 165. Whether or not at the time Mr. Mason was in his working attire, and what were the indications of his being at work or otherwise at the time? State the particulars.

Ans. He had at the time his overalls and frock on, and had the appearance of working. I cannot say what he was doing.

Int. 166. Please explain more fully about the wooden horse on which it was then placed, whether or not it was old or new, and whether or not it constituted a part or the frame for the machine.

Ans. This horse that the machine was on looked to be new, and I think was made on purpose to hold this machine so as to operate it. The horse was built and looked like a horse such as carpenters use for sawing stock on.

Int. 167. Had you ever seen the original machine which you built for Mr. Moffitt arranged or placed upon that same horse before it was dismantled and afterwards refitted by Mr. Moffitt.

Ans. No, sir; there was nothing of the kind used on the original

machine. The original machine was held, as I have stated before, in the vise while being operated.

W. C. WISE.

Attest:

THOS. H. WAKEFIELD,
Special Examiner.

227 *Deposition of Andrew M. Cary.*

BOSTON, *Dec.* 6, 1878.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. Andrew M. Cary; age, 49; reside at Chelsea, Mass.; am a machinist.

Int. 2. How long have you been a machinist, and where and in what capacity have you been employed during that time?

Ans. I have been a machinist 32 years, and 28 years of that time I have been employed by Bisbee & Endicott as a journeyman machinist.

Int. 3. Where was the place of business of Bisbee & Endicott while you were in their employ, and what is their occupation?

Ans. At the foot of Pearl street and the corner of Williams street, Chelsea, and they did general machine-work, and they also carried on an iron-foundry.

Int. 4. Were you in their employ in the year 1867?

Ans. I was.

Int. 5. Whether or not any work was done at the shop of Bisbee & Endicott for John R. Moffitt, the complainant, in 1867; and, if so, by whom was such work done?

Ans. There was a machine made for rolling metallic heel-casings for John R. Moffitt. The work was done by William C. Wise.

Int. 6. State, as nearly as you can, the year or about the time when that work was done named in your last answer.

Ans. About the year 1867. I would not be exact on the date.

Int. 7. Under whose direction was the machine made which you have named?

Ans. John R. Moffitt's direction.

Int. 8. Whether or not the Mr. William C. Wise you have named was the same person who has testified in this case?

Ans. He was.

Int. 9. How near to or remote from Mr. Wise were you employed at the same time he was engaged in making said machine for Mr. Moffitt for the construction of heel-casings?

228 Ans. Sometimes I was not more than six feet from him, then again I might have been twenty, on the same bench.

Int. 10. Please state to what extent you saw the said machine made by Mr. Wise during the process of its construction.

Ans. I saw it about every day that it was there.

Int. 11. Whether or not any other person than Mr. Wise worked upon it, to your knowledge?

Ans. There was not, to my knowledge.

Int. 12. Was Mr. Wise engaged also upon certain other machines for Mr. Moffitt, and under his direction, there at Bisbee & Endicott's?

Ans. He did work on various machines for Mr. Moffitt. I don't say whether he did before or after.

Int. 13. Will now look at the machine shown you, marked Exhibit Wise Model, and state by whom it was constructed, the circumstances of such construction, and what it represents?

Ans. I made the rolls that are in the machine as it now is. Mr. Wise came to me and told me that they wanted a model for an exhibit, for Moore & Rogers, like the original machine of John R. Moffitt's, for bending or shaping metallic heel-casings, and this machine represents the old machine of John R. Moffitt's.

Int. 14. What, if anything, did Mr. Wise furnish you as a guide by which to make the convex and concave rolls?

Ans. He furnished with a metallic heel-casing like Exhibit Wise No. 1.

Int. 15. What, if any, directions did he give you in relation to the construction of the rolls in the Wise Model?

(Objected to.)

Ans. He gave me the iron, the pieces that he had had forged, and told me to make them as near as I could recollect the original rolls were.

Int. 16. What pieces of iron did he furnish you for the construction of said Exhibit Wise Model?

Ans. Pieces of iron with one end upset or made larger than the other, about the length of the shafts and rolls that are now in the exhibit. The block was already there with the bushings on it when I went to work on it, and the gears were on the shafts.

Int. 17. In the original machine which Mr. Wise made for Mr.
229 Moffitt how did the rolls compare with those shown upon the Exhibit Wise Model?

Ans. I think they were quite nearly the same in shape.

Int. 18. Whether or not the convex roll of that original machine had the collar or shoulder upon it, as does the convex roll shown in Exhibit Wise Model?

Ans. It did.

Int. 19. And whether the concave roll had the groove in it, as has the concave roll in Exhibit Wise Model?

Ans. It did.

Int. 20. Please state whether in the construction of the Exhibit Wise Model you adapted the convex and concave rolls to conform to the heel-casing furnished you by Mr. Wise like Exhibit Wise No. 1?

Ans. I did.

Adjourned to Dec. 7th, 1878, at 10 a. m.

(Dec. 7, 1878.—Suspended by agreement to take the deposition of John Ashman.)

BOSTON, *Dec.* 9, 1878.

Int. 21. Whether or not while Mr. Wise was making the machine named by you under the direction of Mr. Moffitt, about the year 1867, you saw any heel-casings at Bisbee & Endicott's substantially like the one marked Exhibit Wise No. 1?

Ans. I did.

Int. 22. By whom were they made?

Ans. Mr. Wise.

Int. 23. Did you see or know of any other person working upon them?

Ans. I don't recollect of any one else.

Int. 24. Whether or not you saw constructed at Bisbee & Endicott's that same year of 1867, or at any other time, any metallic counters substantially like the one now shown you, marked Exhibit Moffitt No. 1?

Ans. I did not see any.

Int. 25. Will you look at the machine now shown you, marked Exhibit Machine No. 3, and state wherein, if at all, it differs from the original machine made by Mr. Wise under the direction of Mr. Moffitt for making heel-casings?

230 Ans. The pressure-bar was not on it, the two lower gears, this piece that the block is bolted to, and on the machine originally there was a flange on one of the rollers; that is all. This crank was put on one of the rolls, connected with the shaft, connected with the rolls.

Int. 26. Which of the rolls had the shoulder upon it, the concave or the convex, in the original machine?

Ans. The convex.

Int. 27. Whether or not the concave roll in the original machine had a groove at its base like that shown in Exhibit Wise Model?

Ans. It did.

Int. 28. Will you point out on Exhibit Machine No. 3 the part you call the pressure-bar?

Ans. This piece that points between the rolls, with a handle on it.

Int. 29. Then if I understand you rightly you include in the term pressure-bar the portion which is placed between the rolls on Exhibit Machine No. 3, and the part to which that piece is bolted, having the form of a handle and extending under the base of the rolls, through which the shafts or journals of the rolls pass; is that your meaning?

Ans. That is what I mean.

Int. 30. How many wheels or gears had that original machine, as made by Mr. Wise, upon it?

Ans. Two.

Int. 31. Had it any angle iron or frame to support the block, as shown in Exhibit Machine No. 3?

Ans. No.

Int. 32. Had that original machine any space underneath the base of the convex roll, between it and the bushing, as is shown on Exhibit Machine No. 3?

Ans. No, sir.

Int. 33. How frequently did you see that original machine made by Mr. Wise, as you have stated, during its construction?

Ans. I saw it every day while it was building.

Int. 34. What was done with the original machine, so far as you know, after it was constructed and the heel-casings made upon it, after the year 1867?

Ans. I think it was put away in the loft of the machine-shop;

231 a kind of store-room where they stored different parts of machines.

Int. 35. Did you ever see the block part of that machine used for cross-feed upon the lathe at any time?

Ans. I think I have.

Int. 36. What, if anything, did you know of that machine, with other pieces of machinery, having been sold at public auction at any time?

Ans. They had an auction in the shop, and that machine, with other parts of it, were sold at public auction.

Int. 37. Please state who purchased it, if you know.

Ans. One of the men employed by Bisbee & Endicott bid it in.

Int. 38. Do you know whether he bid it in for himself or for Bisbee & Endicott?

Ans. I do not know, sir.

Int. 39. Did you see that machine in the loft of the machine-shop after it was put there?

Ans. Yes, sir.

Int. 40. How often, or how many times, as near as you can recollect?

Ans. Twenty times, more or less.

Int. 41. As that original machine was constructed by Mr. Wise about 1867, in your judgment could a metallic counter like Exhibit Moffitt No. 1 have been made upon it?

Ans. In my judgment I think it could not.

Int. 42. Why not?

Ans. The flange on the convex roll would be in the way of turning up the base.

Int. 43. What, if anything, do you know of any changes being made upon that original machine at some time after 1867, at Bisbee & Endicott's?

Ans. I know that the original machine was rebuilt; I did not know of any change. I never examined the machine; only saw it as I was passing in and out of the shop. I was at work at that time in to Spinney & Co.'s rubber counter manufactory. I was sent in by Bisbee & Endicott.

Int. 44. When was it that the machine was rebuilt, as you have stated? State as nearly as you can.

232 Ans. I should say it was two and one-half, perhaps three, years ago.

Int. 45. What part of the machine did you see in process of rebuilding or reconstruction at that time?

Ans. The rolls.

Int. 46. Who was at work upon the rolls?

Ans. Mr. Elijah Endicott.

Int. 47. Where was the machine placed upon which this work was being done, upon or near whose work-bench?

Ans. On Mr. Elijah Endicott's bench, the part that he did not have in a lathe.

Int. 48. Where were the other parts at that time?

Ans. He had this block that the rolls were going into on his bench. That was all that he was at work on when I saw him.

Int. 49. Whether or not at that time you observed the pressure-bar, or any person at work upon the pressure-bar?

Ans. I have no recollection of seeing a pressure-bar at that time.

Int. 50. Whether or not you at that time saw the gears or the frame to which the block was attached, or any other part than you have stated, connected with the machine; and, if so, what?

Ans. Not at that time when Mr. Endicott was at work on it.

Int. 51. Did you at any other time, after that and before the hearings in this case?

Ans. I saw the machine in the distance. It was then placed on a horse. I did not go and examine the machine, and could not say whether the gears were upon it or not. I mean those two extra gears.

Int. 52. When was it that you saw the machine at a distance, as stated in your last answer?

Ans. It was after the machine was all finished. It might have been one month or two months after I saw Mr. Endicott work upon it.

Int. 53. Whether or not at that time you noticed whether the pressure-bar was upon it or not?

Ans. I did not notice.

Int. 54. Where was the machine at that time?

Ans. It stood out by Mr. Mason's bench, at Bisbee & Endicott's.

233 Int. 55. About how far distant were you from it at this time?

Ans. I might have been twenty-five feet.

Int. 56. How did you know it was then finished, or what led you to think it was finished?

Ans. By the remarks that I heard in the shop in regard to it.

Int. 57. Did you at any other time after that see the machine so refitted before examining it for the purpose of giving your evidence in this case?

Ans. I did not.

Int. 58. State, if you know, under whose direction this refitting of the machine was done.

Ans. Under Mr. Moffitt's direction.

Int. 59. Whether or not you saw Mr. Wise making any other machines under the direction of Mr. Moffitt, in or about 1867, to be used upon or about the construction of heel-casings?

Ans. There were other machines that went in connection with the rolls.

Int. 60. Will you describe briefly those other machines so made to be used in connection with the rolls in so making the heel-casings?

Ans. I don't know as I can describe the machine itself. They were used for turning this front part of the casing and punching the holes for rivets.

Int. 61. Will you look at the Exhibit Wise No. 2 and state whether you ever saw that or one substantially like that; and, if so, where and when?

Ans. I saw Mr. Wise in '67 use a pattern like this for making blanks off for heel-casings.

Int. 62. Will you describe briefly the process adopted by Mr. Wise in making the heel-casings after he had marked off his blank?

Ans. After he marked off his blanks they were turned up as far as the notches go in the blank. I think it was done by a machine made for that use, and after they were turned up and pressed down they were run through the rolls to give them the general form of a heel-casing, and then they were put on to a machine, and, as I stated before, the front ends were bent round and punched for the rivets.

234 Int. 63. State, if you recollect, how the blank was held to the roll, if at all, so as to give it the circular form.

Ans. He run the blank through, and, as it came through, he put his finger on the back side and pressed down on the blank, and when he rolled it back he put his thumb on the other side and pressed it. He run the blank part way through, and he run it backward and forward so as to give it the desired form.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 64. How many times in 1867 did you see Mr. Wise make heel-casings?

Ans. It is a pretty hard question to answer. I might have seen him make ten and I might have seen him make twenty; I mean by that good casings.

Cross-int. 65. Did you aid him in the work?

Ans. No, sir.

Cross-int. 66. By how many times I mean how many different occasions of experiment did you witness; not how many casings did you see him make?

Ans. Well, he was experimenting for some little time before they got a casing to suit. I cannot give any definite number of times. They were working on the machine; they were experimenting with it right along.

Cross-int. 67. Whom do you mean by they?

Ans. Mr. Moffitt would come into the shop, see what Mr. Wise was doing, how far he had got along on the work; he would give Mr. Wise further instructions. That is whom I mean by they.

Cross-int. 68. Was not Mr. Moffitt's undivided time given to this work in 1867?

Ans. Not knowing Mr. Moffitt's business, I could not say. He was not in the shop all the time.

Cross-int. 69. Do you know any other thing he was then engaged upon; if so, name it?

Ans. Nothing, unless it was something connected with the rubber counters; that is, as far as my recollection goes.

Cross-int. 70. Don't you know that he did not enter upon this
235 said rubber business until after this machine was completed and experiments on it finished?

Ans. As far as my recollection goes he was on the rubber previous to that. I would not say positively.

Cross-int. 71. Did you ever carefully examine that machine made by Mr. Wise in 1867, or take it in your hand?

Ans. I saw the machine every day. I did not examine it, as you term it, carefully, because it was a machine that did not require much examination to see how it was constructed.

Cross-int. 72. Did you examine it any more critically than you examined any other machine then in construction at that shop, or any more carefully than the other men at work in the shop examined it?

Ans. As to the first part of the question I answer, I suppose not. Not knowing how the other men examined it, I could not say as to that. I only examined it as any other ordinary machine.

Cross-int. 73. If you were asked to give the details of form and function of any other machine then constructed at that shop, could you give them?

Ans. I could of some machines.

Cross-int. 74. Could you of a machine of which kind but one was then and there constructed?

Ans. Some machines a man may see them but once and then can describe them, and others he might see them a great many times and not be able to describe them.

Cross-int. 75. I ask of any machine of which but one was constructed in that shop at that time, and I say could you now describe the details of form and function of such machine?

Ans. I should say no of any other machine but this.

Cross-int. 76. Could you have given from memory the details of the description of this machine, constructed in 1867 by Mr. Wise for making heel-casings, in 1875?

Ans. I suppose I could, just as well as I could now. I had access to the machines in the shop as they laid there and I could see them every day if I had a mind to, that is, before they were changed.

Cross-int. 77. Could you have described the details without looking at the machine?

Ans. I remembered the rolls, how they were constructed.

236 Cross-int. 78. Do you think that had you been called on to state the details of the construction of this machine three years ago, when the machine was in the loft of the machine-shop, you would have given them from memory or would have gone to the machine?

Ans. Under the same circumstances that I give it now I think I could.

Cross-int. 79. What circumstances do you refer to?

Ans. Of making the rolls of the Exhibit Wise Model.

Cross-int. 80. Who told you how to make the rolls?

Ans. I was given a piece of iron and told to make the rolls as near as I could recollect how they were built in the original machine.

Cross-int. 81. I ask again, who told you?

Ans. Mr. Wise gave me the iron and told me to make the rolls.

Cross-int. 82. When he gave you the iron could you have made the rolls from memory just as you did make them?

Ans. No, sir.

Cross-int. 83. How then did you get information or instruction as to what was wanted?

Ans. I turned the rolls, roughed them out, turned them so they would roll together something near what they are now, and then I went over to the mill where Mr. Wise was at work and I asked him if he thought that the shape was right, and he gave me a casing to lay on to the rolls to see if it fitted the concave of the casing, and, if not, to turn the rolls down till it did, and I did so.

Cross-int. 84. Had you at that time any recollection of the particular features of those rolls, save generally that one was convex and the other concave?

Ans. I had.

Cross-int. 85. What?

Ans. The collar on the convex roll.

Cross-int. 86. Do you wish to be understood to say that, from your unaided memory, you did within the last four or six months make those rolls with that collar on the convex roll as resembling and being substantial copies of the rolls in the machine we have been considering?

Ans. I made those rolls to the best of my memory to what the original machine was. I gained knowledge as I went along in mak-

237 ing the machine; things were brought to me. What I mean to say is, as I made the machine I understood how everything went on the machine.

Cross-int. 87. By saying you understood, you mean you understood from the working of the machine as you constructed it, do you?

Ans. I mean that the machine was made the same as the original, as I understand it.

Cross-int. 88. (Last question repeated.)

Ans. I don't understand the phrase there put in. (After rereading the question, witness adds:) Yes, sir.

Cross-int. 89. Had you not been shown Exhibit Wise No. 1 when you were making Exhibit Wise Model would you have made it from memory just as it is?

Ans. No, sir.

Cross-int. 90. How would the rolls as you would have made them, had not this Exhibit Wise No. 1 been given you, differ from those now seen in Exhibit Wise Model?

Ans. I might have changed the circle, the shape of the heel-casing.

Cross-int. 91. As you would have made them would the blank have been put in with the double edge towards the base of the rolls or the other way?

Ans. It seems to me as though they were both double edges. I should say, if I can explain it satisfactorily, that the edge that is turned down, or, otherwise speaking, the flush edge, would go up next to the flange in turning.

Cross-int. 92. My inquiry is how it would have been in the rolls you would have made from memory if you had not seen Exhibit Wise No. 1?

Ans. There has been no time since the original machine was built but what I have seen this casing Exhibit Wise No. 1 from time to time. He has had it in his chest, and at times I have had access to his chest and seen it there, and that kept the machine in memory.

Cross-int. 93. I ask again how the blank would have been put in the rolls had you built them without referring to Exhibit Wise No. 1; would the doubled or flush edge have been at the collar end of the rolls, or the reverse?

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Ans. There isn't but one way to put them in to roll or shape the casing, and they would have to be put in so that these notches in Exhibit Wise No. 2 would have to stand down in the casing Exhibit Wise No. 1.

Cross-int. 94. (Last question repeated.)

Ans. I should put them in just the same as they were bent.

Cross-int. 95. (Same question repeated.)

Ans. The doubled end or flush edge would have been next to the collar end of the convex roll.

Noon recess to 2.15.

Cross-int. 96. Would you have constructed the convex roll with a collar on it had your memory been aided by the sample-heel-casing marked Exhibit Wise No. 1?

Ans. Yes, sir.

Cross-int. 97. What part of the construction of Exhibit Wise Model did you do yourself?

Ans. I made the rolls.

Cross-int. 98. Who made the shafts?

Ans. The shafts and the rolls are all one, that is, they are turned out of one piece of iron, with the rolls turned on one end.

Cross-int. 99. Who turned the shafts and finished them?

Ans. I turned the shafts the rolls are on and finished them.

Cross-int. 100. Are there any other shafts there?

Ans. There are not.

Cross-int. 101. Who finished the holes and the bushings in which the shafts are journaled?

Ans. I do not know.

Cross-int. 102. Did you ever examine them?

Ans. I examined them after I had the machine to fit the rolls to them.

Cross-int. 103. They were in the same form when they came to you that they are now, were they?

Ans. Yes, sir. I did nothing to them.

Cross-int. 104. Did you ever make a heel-casing on machine Exhibit Wise Model?

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Ans. None but a tin one; I run it through merely to get the shape of the rolls.

Cross-int. 105. Did any one aid you in that; if so, who?

Ans. I run the blank through over to the shop where I was at work, and then carried it into Mr. Wise, and he put it into a vise and he cut

out some pieces and rolled them through and compared them with the Exhibit Wise No. 1.

Cross-int. 106. Did any one else run any blanks through at that time or at any time since, to your knowledge?

Ans. They did not any at that time nor since, to my knowledge.

Cross-int. 107. Will you produce the tin casing you run through, or any of those run through by Mr. Wise, about which you have spoken?

Ans. I haven't any of them.

Cross-int. 108. Can you not produce the tin one or one of the others, so that it can be annexed to your deposition as an exhibit?

Ans. I can't say whether I can or not. I made them down at Lynn, where I made the rolls, and perhaps I should change the word casing, because we did not make a perfect casing the same as this Exhibit Wise No. 1, but merely cut out a blank, cutting off the notches shown on Exhibit Wise No. 2, and run in the blank that we so made through the rolls, to see if the general shape was like the casing Exhibit Wise No. 1. I do not know as any of those casings or substitute for casings are in existence.

Cross-int. 109. Describe just how you made the piece of tin you used, and how you put it into and through the rolls?

Ans. I marked the tin from the blank Exhibit Wise No. 2, and then cut it out at a line at the base of the notches, so that it was shaped like Exhibit Wise No. 2, without the notches. It is put in through with the convex edge toward the base of the rolls. We took it and rolled it in between the rolls.

Cross-int. 110. You did not then open the rolls to receive it, but put it in just as the rolls are now, did you?

Ans. They are, as far as I know, the same as I left them. You can roll it in as it is.

Cross-int. 111. Did you open the rolls to receive the tin blank?

240 Ans. After the rolls were set the tin was rolled through without being opened.

Cross-int. 112. What do you mean by saying "after the rolls were set"?

Ans. I mean I run a piece of tin in, and if it didn't give the pressure that I wanted I set the rolls nearer together till I got the pressure that I wanted; then I run the tin in without change of the rolls.

Cross-int. 113. How did you set the rolls nearer together, that is to say, what mechanism or device is there in Exhibit Wise Model by which that is accomplished?

Ans. The bushings have got a hole bored through them out of the centre, and by turning them with the parts that have got the thinnest edges, that is, with holes nearest together, they would act as a cam, throwing them apart or together.

Cross-int. 114. This part of Exhibit Wise Model you have just described you did not make, did you?

Ans. No, sir.

Cross-int. 115. Did you ever observe a like construction in the machine Wise made in 1867?

Ans. Yes, sir.

Cross-int. 116. Please look at exhibits now shown you, marked Exhibit Wise No. 1, Moffitt No. 2, and Moffitt No. 3, and say if you can take the Exhibit Wise Model and run through it blanks shaped like Exhibit Wise No. 2, of the same quality and thickness of iron as of the

said exhibits, giving the same circle and form, without stretching and thinning the iron?

Ans. I have seen Mr. Wise run through counters the same as Exhibit Wise No. 2. About these two exhibits, Moffitt Nos. 2 and 3, I have no recollection of seeing any so made.

Cross-int. 117. The question is, can you take such blanks and produce such casings on Exhibit Wise Model?

Ans. I might after I had practice. I never have done any heavier than tin, but have seen Mr. Wise bend those like Exhibit Wise No. 1.

Cross-int. 118. When and where?

Ans. At Bisbee & Endicott's machine-shop, about the year 1867. I don't recollect the exact dates.

241 Cross-int. 119. That was not done upon Exhibit Wise Model, but on the old machine. The question is, can you do it on Exhibit Wise Model?

Ans. I think it can be done.

Cross-int. 120. (Last question repeated.)

Ans. Yes, I can do it, if that suits any better. I don't see any reason why it couldn't be done on this machine as well as on the original, and, as I said before, I have seen Wise roll the casings on the original machine.

Cross-int. 121. Have you ever made any casings save the single tin casing you have before mentioned on the Exhibit Wise Model?

Ans. I have not.

Cross-int. 122. Did you ever see Wise make any casings on Exhibit Wise Model like Exhibit Wise No. 1?

Ans. I have not.

Cross-int. 123. Have you never seen him make any like Exhibit Moffitt No. 2 and Moffitt No. 3 on Exhibit Wise Model?

Ans. I have not.

Cross-int. 124. Did you ever see Mr. Wise make any heel-casing on Exhibit Wise Model?

Ans. No more than what I have already answered, a tin form to get the general form of the rolls.

Cross-int. 125. You have never seen any blank shaped like Exhibit Wise No. 2 bent and put through the rolls of Exhibit Wise Model and turned out a heel-casing formed like the heel-casings as they came out of the original machine in 1867, have you?

Ans. I have not.

Cross-int. 126. Do you know Elijah Endicott, Daniel Madison and his son, and Harry Hughes?

Ans. I do, and also Mr. Mason that works in the shop.

Cross-int. 127. Did you know of a suit brought by Mr. Moffitt against William F. Spinney and others, upon certain patents for counters and counter machinery?

(Objected to as immaterial and incompetent.)

Ans. I knew there was such a suit.

Cross-int. 128. Did you ever say to the parties named in the 126th cross-int., or either of them, that you knew or believed false tes-

242 timony was given against Moffitt in that case, but you would not do anything to correct it, and would hurt him all you could, or anything to that effect or to the purport of any part?

(Same objection.)

Ans. I never said any such thing to any party. Mr. Moffitt told me that there were parties that said I told them that I would injure Mr. Moffitt if it was in my power, and that was the first knowledge that I

had of such an assertion, for I have said several times in regard to these law-suits that I hoped right would prevail.

Cross-int. 129. Did you ever see the original machine with the rolls, shafts, and gears removed from it?

Ans. I saw it while Mr. Wise was working on it, in pieces.

Cross-int. 130. I mean after 1867?

Ans. I wouldn't want to swear positively, but I think I saw the rolls lying on the bench, and afterwards, I think, the rolls were used for some other purpose, being steel rolls; that is my impression that I have now.

Cross-int. 131. When was this?

Ans. It was three years after 1867, or more. I should think.

Cross-int. 132. Was it after the auction sale?

Ans. Yes, sir.

Cross-int. 133. Do you know that machine was sold at the auction sale?

Ans. I don't know as any of it was sold at auction sale, only it was told me it was sold.

Direct examination resumed:

Int. 134. In answer to the 128th cross-int. you state, among other things, in substance, that Mr. Moffitt told you that there were parties who told him that you said you would injure him if it was in your power. What reply did you make, if any, to him?

Ans. I told him it was false. He said he could prove it, and I told him if he could prove it he would prove a lie.

Int. 135. Did you say anything further to him in relation to it? If so, what?

Ans. I don't recollect anything further on that particular subject. We had some conversation about my giving my deposition. He seemed to feel hard towards me, and seemed to think that I couldn't
243 say anything to injure him on the case. I told him I should tell nothing but the truth as far as I knew.

Int. 136. What, if anything, did he say about your not testifying in the matter?

Ans. I don't know as he said anything about my not going to testify.

Int. 137. What, if anything, did he say more than you have already stated about your testifying in the case?

Ans. I don't remember anything more than what we said something about my giving my testimony, something in this form, that I knew nothing that would hurt him or would hurt the case. I forget the exact words. The reply that I made to him was he had no reason to find any fault, or something to that effect, if my evidence was not going to hurt him in the suit.

Int. 138. When was this conversation between you and Mr. Moffitt; state as nearly as you can?

Ans. Soon after the deposition was filed in court.

Int. 139. You mean your former deposition in this case?

Ans. Yes, sir.

A. M. CARY.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of John Ashman.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

BOSTON, *Dec.* 7, 1878.

Int. 1. State your name, age, residence, and occupation.

Ans. John Ashman; age, 32; reside at Revere, Mass.; am a machinist.

Int. 2. How long have you been a machinist, and where have you worked?

Ans. Fourteen years. I worked for Bisbee, Endicott & Co., of Chelsea, six years, Geo. T. M. Lauthlin, of Boston, about two years, and about six years with S. R. Lovewell, of Chelsea, and four years of that time I was in partnership with him.

244 Int. 3. When did the six years commence, and when end, that you worked for Bisbee, Endicott & Co.?

Ans. It commenced in 1864 and ended in 1870.

Int. 4. What other machinists were at work for Bisbee, Endicott & Co. at that time?

Ans. William C. Wise, Andrew Cary, D. C. Allen, Thorndike Allen, John S. Austin, G. V. Salisbury, John Linnehan, Elijah Endicott, Daniel Madison. I don't remember any more at present; there were quite a number there.

Int. 5. Whether or not all these persons named by you were at work there in 1867; if not, which of them were so at work there?

Ans. I think they were all at work there except Thorndike Allen and Daniel Madison. I don't think these two men were there working in 1867.

Int. 6. How was your position for work situated in relation to that of William C. Wise, while at work there in 1867?

Ans. Sometimes I would be working within three or four feet of him and sometimes I would be at work fifty feet from him, in the same room and on the same bench, only the vises were put three or four feet apart, and this was the next vise to it. When I was working fifty feet from him it was not the same bench, but it was when I was three or four feet from him.

Int. 7. What, if anything, do you know of work done there at Bisbee & Endicott's in 1867 for John R. Moffitt, the complainant?

Ans. I knew that there was a number of machines made for him about that time for different purposes.

Int. 8. What do you know of a machine having been made there about that time under the direction of Mr. Moffitt for making metallic heel-casings, substantially like Exhibit Wise No. 1, and by whom was it made?

Ans. I remember of William C. Wise making machinery to make such heels as that Exhibit Wise No. 1.

Int. 9. Will you look at the machine before you, marked Exhibit Wise Model, and state what that represents?

Ans. That represents a machine he made in 1867 for rolling up metallic heel, giving it the concave on the outside and the convex on the inside, like Exhibit Wise No. 1.

245 Int. 10. Do you mean the machine made by William C. Wise under the direction of Mr. Moffitt, referred to in your former answer?

Ans. I do. I never saw anybody else at work on it but him.

Int. 11. How do the rolls on this Exhibit Wise Model compare with

those on that original machine made by Mr. Wise under Mr. Moffitt's direction?

Ans. I should say, as near as I can recollect, they are the same shape.

Int. 12. Whether or not the convex roll had the shoulder upon the base of it, and the concave the groove, in that original machine, as is shown in this Exhibit Wise Model?

Ans. They did.

Int. 13. How frequently did you see that machine so made by Mr. Wise in the progress of its construction?

Ans. Some days I might see it perhaps fifty times, and another day perhaps I wouldn't see it at all.

Int. 14. Whether or not you saw any use of that machine by any one in 1867, and, if so, by whom?

Ans. It was used for turning up metallic heel-casings by William C. Wise.

Int. 15. Did you ever see any other person making any metallic heel-casings upon it?

Ans. I did not.

Int. 16. What was done with that machine after it was made, so far as you know, besides making the heel-casings that you have stated?

Ans. As far as I know, it was laid away in the second story of a building of the firm of Bisbee, Endicott & Co., at Chelsea. That was where I saw it some time after the year of 1867.

Int. 17. Was the machine then entire when you last saw it, or had any parts of it been removed?

Ans. It was all together the last time I remember ever seeing it.

Int. 18. Whether or not you ever saw any metallic counters substantially like the one shown you, marked Exhibit Moffitt No. 1, made upon that machine?

246 Ans. I never did.

Int. 19. Was the machine so constructed that such metallic counters could have been made upon it?

Ans. In my judgment they could not.

Int. 20. Please explain why they could not, referring to the Exhibit Wise Model.

Ans. The collar on the convex roll is in the way to make the base of the counter.

Int. 21. Will you look at the machine marked Exhibit Machine No. 3 and state how that conforms to or differs from the original machine made by Mr. Wise for Mr. Moffitt, as you have stated?

Ans. There are two extra bevel-gears, one angle-piece, one pressure-bar on the back of the machine that fits between the two rolls back of the rolls and a piece of iron that runs under the rolls and the pressure-bar attached, and there is no collar on the convex roll and no groove in the concave roll. What I have been describing are on Exhibit Machine No. 3 more than and different from what are on Exhibit Wise Model. What I have stated is more than and different from the original machine that Wise made in 1867.

Int. 22. Whether or not in that original machine made by Mr. Wise there was any space below the convex roll and between that and the bushing, such as is shown under the convex roll in Exhibit Machine No. 3?

Ans. The base of the convex roll in the original machine set down close to the eccentric bushing.

Int. 23. To what extent, so far as you know, were heel-casings made by Mr. Wise on that original machine?

Ans. I should think he was experimenting two or three months. I do not know how many heel-casings he made.

Int. 24. Whether or not you saw any metallic counters substantially like Exhibit Moffitt No. 1 which had been made by anybody about the place of Bisbee & Endicott in 1867, or about that time?

Ans. I never saw anything of the kind

Int. 25. State as nearly as you can when you first did see any metallic counters substantially like that Exhibit Moffitt No. 1.

Ans. I think it was about last October.

247 Int. 26. Will you look at the thing marked Exhibit Wise No. 2 and state what that is and what it represents?

Ans. That looks like a pattern that William C. Wise used for cutting out sheet-iron for making metallic heel-casings.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant.

Cross-int. 27. What work were you engaged upon in 1867 at Bisbee & Endicott's during the time Mr. Wise was making the machine for turning up metallic heel-casings?

Ans. I cannot say. Sometimes my work would be running a lathe, and sometimes I would be working at the bench.

Cross-int. 28. Were there other machines being built at Bisbee & Endicott's in the same room in which you and Mr. Wise worked at that time?

Ans. There were.

Cross-int. 29. Name one or two.

Ans. Well, I suppose there were punches for one thing, and other machinery that I can not tell what it was. There was machinery for the Boston Elastic Fabric Co. I couldn't tell the names of the machines or what they were used for.

Cross-int. 30. Did you work on any of this machinery you have last named?

Ans. I have, I think. I wouldn't be positive.

Cross-int. 31. Please name any piece of machinery you worked upon there in 1867.

Ans. I don't think I can state positively any particular machine or machinery that I worked on, but I think I worked on a lot of machinery for the Tufts elevator in 1867.

Cross-int. 32. Describe the part you worked on.

Ans. If it was the Tufts elevators, I drilled, put together, turned off the drums, turned off the gears, turned the bearings, bored out holes in large drums, fitted them on to the shafts, keyed them on, fitted the keys.

Cross-int. 33. You, yourself, did all this work on the Tufts elevator, did you?

248 Ans. I did if I did any that year. We used to make them and that was the work I did.

Cross-int. 34. How long did you work on the Tufts elevators, doing that kind of work?

Ans. Off and on five or six years, different parts.

Cross-int. 35. Describe one of the punches you have said were made in the shop of Bisbee & Endicott.

Ans. I can only describe the punches that Bisbee & Endicott manufacture for the last fourteen years, and I think it is likely they were made that year. They are making them more or less all the time.

Cross-int. 36. Cannot you name some piece of machinery made at

Bisbee & Endicott's in 1867 or 1868, not a part of their regular work, as the punches and elevators were?

Ans. One was this machine for turning metallic heel-casings. There was another made to make rubber-stiffenings for counters, if I remember right. There was a machine made for bending up a square corner of a metallic heel-casing, and there was part of a piece planed out for a punch to punch the blanks. I don't remember whether the rest of the punch was made or not.

Cross-int. 37. Bisbee & Endicott had a general jobbing machine-shop, hadn't they, for making any kind or piece of machinery that was required?

Ans. They did.

Cross-int. 38. Do you not recall some piece of machinery made in 1867 or 1868 not in their regular work like the punches and elevator, and not like the machines for counters, &c., named in your answer to the 36th cross-int.?

Ans. No, I cannot call to mind any that I can swear positively were done there at that time. It is eleven years ago.

Cross-int. 39. Did you work as near to other workmen as to Mr. Wise in 1867?

Ans. I did.

Cross-int. 40. Can you describe the work done by any one of them in 1867 or 1868, specifically?

Ans. I don't think I can, outside of this machine, this stuff that William C. Wise was making.

249 Cross-int. 41. Did you help him in this work?

Ans. I did not.

Cross-int. 42. When did you last see the machine made by Mr. Wise for making metallic casings; state as near as you can?

Ans. About 1870.

Cross-int. 43. Was it in a room by itself when you so saw it last?

Ans. It was not.

Cross-int. 44. What else was kept in the room?

Ans. There was a variety of old machinery, such as pulleys, old bolts, sheet-iron, and such things, too good to go into the junk-heap; they were such kinds as would work in to making other machinery.

Cross-int. 45. Was it then in the same condition it was when you saw Mr. Wise making metallic casings on it; that is, was it in working order?

Ans. It was, as near as I can remember.

Cross-int. 46. Did you take hold of it and examine it then, or had you ever done so?

Ans. I never took hold of it or examined it after they stopped making metallic heel-casings, not that I remember, without I was trying to find something and it might be in the way, then I might have moved it.

Cross-int. 47. Did you ever at any time examine it and scrutinize its parts and their operation?

Ans. I have.

Cross-int. 48. More than once?

Ans. Yes.

Cross-int. 49. How many times?

Ans. I could not say; perhaps twenty-five times, or perhaps fifty.

Cross-int. 50. Did you examine this more than any other work that was being done in the shop at that time?

Ans. I did.

Cross-int. 51. Why?

Ans. In the first place, I was young in the business. Mr. Moffitt was always getting up something new, and I had the curiosity to examine more closely the machines that Mr. Moffitt used to be getting up, for he was about the only man that had new things built there in
250 the shop, and this present machine struck me very forcibly that it was a very good idea for rolling a piece of sheet-iron concave and convex. I had never seen anything of the kind before.

Cross-int. 52. Did you ever see Mr. Moffitt around the shop and in conference with Mr. Wise at this time?

Ans. I did.

Cross-int. 53. How often?

Ans. Sometimes I would notice him perhaps half a dozen times a day; perhaps some days it would be more and some days it would be less.

Cross-int. 54. Did you ever see him doing anything with the machine or at work upon it?

Ans. I don't remember of ever seeing him doing it. He might have been doing something to the machines, for he was there sometimes two or three hours at a time, and I don't know but more.

Cross-int. 55. Are you not aware that Mr. Moffitt gave at that time his undivided time to this machine?

Ans. I did not know anything about it; do not know whether he was or not.

Cross-int. 56. Did you ever talk with him about it?

Ans. Not that I know of. I don't remember of ever having any conversation about it with him.

Cross-int. 57. Did you ever see casings made on the machine made by Mr. Wise for Mr. Moffitt, and, if yea, by whom were they made?

Ans. I saw Mr. Wise make them. I don't remember of ever seeing anybody else make them.

Cross-int. 58. Was Mr. Moffitt present when they were made?

Ans. I think it is likely he was some of the time, but cannot swear positively one way or the other.

Cross-int. 59. Describe the process of making a casing as you saw Mr. Wise make one.

Ans. He would mark one out from a pattern, cut it out with a pair of shears, bend it over somewhere about in the centre, one part of it, and hammer it, the part that was bent over, together flat, run it through these concave and convex rolls, run it backward and forward,
251 bend it round at the same time till he got it the shape he wanted it. He would take it out and put it into a machine that he made and bend the square corners, punch the holes, and rivet a piece on and rivet them together. He would take the part that he had bent down, flatted down, and bend it about half way the depth of the casing.

Cross-int. 60. Describe the machine for bending the corners as you have stated.

Ans. As near as I can remember, he had a form of a heel-casing, and he put that heel-casing over the form and it was fixed so that he nipped the sides together and held it in its place while he had levers that would take each corner and bend it round square up close to the form.

Cross-int. 61. Can you describe those levers and their mode of operation?

Ans. On one end of them there was a piece came out to be square with the handle that you took hold of, and there would be a hole put into it somewhere in the vicinity of the corner of it where this turned

and be pinned on to the block, so that by pulling it round to a certain place it would be square with the straight side of the form.

Cross-int. 62. Did you then know as much of this machine you have last spoken of as of the machine for making the casings?

Ans. I did not take so much notice of that machine as I did the one that had the concave and convex rolls.

Cross-int. 63. Have you and Mr. Wise conferred together during the present year about that machine with the rolls?

Ans. Within three months I met Mr. Wise in Pemberton Square, Boston, and he showed me this machine marked Exhibit Wise Model, and he asked me if that was like the machine he made in 1867 for making metallic heel-casings. That is about all the talk we ever had about this machine.

Cross-int. 64. How long were you together on that occasion, and whereabouts in Pemberton Square was the interview?

Ans. About thirty minutes. I couldn't tell you the number of the building.

Cross-int. 65. How happened you to meet him?

(Objected to as immaterial.)

252 Ans. Parties came to my place of business, told me he was going to be over there, and requested me to meet him there.

Cross-int. 66. What parties?

Ans. Mr. Stephen Moore.

Cross-int. 67. Did Mr. Wise on that occasion call your attention to the collar and the groove at the base of the rolls?

Ans. He did not. He asked me if that was like the machine that he made in 1867, and I told him I should think it was the same machine.

Cross-int. 68. Did you think it the same machine?

Ans. From what I had heard I knew different, that it wasn't.

Cross-int. 69. You had heard something then, before he showed you Exhibit Wise Model, about it, had you?

Ans. When he showed it to me he said he had been making the machine, and he asked me if it looked like the one he made in 1867. I hadn't heard anything before that, not from him, about this machine.

Cross-int. 70. Did you in 1867 or have you since made any record of the incidents connected with this machine made by Mr. Wise, or of its mode of operation, or have you made or had any drawings of the machine or any of its parts?

Ans. I have not.

Cross-int. 71. You have testified, then, from your unaided recollection, have you?

Ans. I have.

Cross-int. 72. Have you not reinforced your memory by conversations with others?

Ans. I might in some details. The main points of the machine, that is, the main style and construction of it. I don't think I have borrowed any ideas of anybody, either in talking before or since I first knew about the case, or reinforced my recollection in any way from what others might say.

Cross-int. 73. What details do you refer to in your last answer?

Ans. The size and exactly the shape of the rolls and shafts.

Cross-int. 74. About those you have conversed with others, have you?

Ans. I have a little. I thought the old rolls were larger a little in diameter as made in 1867.

253 Cross-int. 75. With whom have you conversed as above?

Ans. With Mr. Wise, when he showed me this machine Exhibit Wise Model.

Cross-int. 76. Any one else?

Ans. I don't think I had anything to say with anybody else.

Noon recess to 2 p. m.

Cross-int. 77. Were you a witness for the defence in the suit brought by Mr. Moffitt against Spinney & Melcher upon one or more patents for counters and machinery for making counters about 1875 or 1876?

Ans. I was. I don't know what date it was, whether 1875 or 1876.

Direct examination resumed:

Int. 78. In your answer to the 59th cross-int., in which you described the process adopted by Mr. Wise in making the heel-casings, you say, among other things, in substance, after the blank had been turned over upon itself and hammered down, that he run it backward and forward between the rolls and bent it round at the same time till he got it the shape he wanted it; will you state how he bent it round to give it that shape?

Ans. He turned the roll by one hand and bent it round with the other with his thumb and finger; he bent it round as it went through; he had a crank on the end of the shaft of one of the rolls that he turned them with.

JOHN ASHMAN.

Attest:

THOS. H. WAKEFIELD,
Special Examiner.

Deposition of John W. Nichols.

BOSTON, *Dec.* 10, 1878.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. John W. Nichols; age, 55; reside at East Kingston, N. H.; am a boot and shoe maker.

254 Int. 2. How long have you been a boot and shoe maker, and where have you been so engaged?

Ans. I have been one for something over forty years, and most of that time I have been in East Kingston, and some of the time in Exeter, N. H. I have worked in Haverhill, Mass., in Vermont, and in Bangor, Maine, and in Georgetown, Mass.

Int. 3. During what period of time did you work in Exeter, and when?

Ans. I commenced working there about 1851, and I worked there until 1857.

Int. 4. Will you now look at the machine marked Exhibit Nichols Machine, and state what you know of that machine?

Ans. This machine I bought. I prefer it in preference to all other straight rollers, because it crimped the stock I rolled, more especially the counters, the stiffeners, by putting your hand on the stiffeners when they are passing through the rolls to make them more concave, to concave the stiffening.

(Machine referred to is offered in evidence, and marked Exhibit Nichols Machine, T. H. W., examiner.)

Int. 5. When did you buy it?

Ans. About 1853.

Int. 6. Of whom did you buy it?

Ans. A man by the name of Folsom; I can't think of his other name.

Int. 7. Was the machine when you bought it just as it is now, with the exception of wear?

Ans. Yes, sir.

Int. 8. How constantly have you used that machine since you bought it in 1853?

Ans. Most all of the time, excepting when I was in the Army.

Int. 9. Do you mean as you had occasion to use a rolling-machine of that character?

Ans. Yes, sir.

Int. 10. What did you use it for?

Ans. I used it for rolling the leather and crimping it to the form of the last, for soles to fit for the last, and crimping the stiffenings.

255 Int. 11. Will you go to the machine and point out how you used it for rolling soles, and also for crimping the counters for the heel?

Ans. This is the way I roll it for the sole. I put the leather in endwise on the side opposite the apron and turn the crank, thereby causing the blank to pass between the two rollers, delivering it upon the apron. Now for counters. I start them on the other side, and to crimp them I put my hand on them, holding the blank down as it is passed through over the convex roll.

Int. 12. Whether or not you pass the same blank through more than once, and, if so, how many times in crimping the counters?

Ans. It is always according to the hardness of the stock to get the form of it in passing it through. If the stock is solid and of the right temper once is usually enough; if it isn't solid and of the right temper, twice.

Int. 13. Whether or not that machine has always, since you have had it, had the concave roll placed above the convex roll, as is shown in that exhibit?

Ans. Always has been as it is now, since I have owned it.

Int. 14. Whether or not you have seen other machines substantially like that exhibit, with the exception of the convex roll being above the concave roll?

Ans. Yes, I have.

Int. 15. For what reason, if you know, is the concave roll placed above the convex roll in said exhibit?

Ans. I don't know as I can tell.

Int. 16. Whether or not there is any convenience in having the convex roll underneath rather than above in crimping the counters?

Ans. With the convex roll on top it would be better for shoemakers, on account of more especially the crimping of the stiffening, it being handier to put your hand on the counter while it is passing through, and holding of it up to the roll.

Int. 17. How were the machines which you have seen substantially like said exhibit generally constructed, with the convex roll above or below the concave roll?

Ans. I have seen them made both ways. I should think they were made one way as much as the other, about half each way.

256 Int. 18. Please state when, where, and by whom you have seen machines in use constructed substantially like said exhibit, with

the convex roll sometimes above and sometimes below, as you have stated.

Ans. Aaron Gale, at East Kingston, N. H., now using it and for more than twenty-five years.

Ezra M. Currier, at East Kingston, N. H., more than twenty-five years ago.

George S. Rowell, at East Kingston, N. H., more than twenty-five years ago.

Daniel Reynolds, at East Kingston, N. H., from ten to fifteen years ago.

John A. Blaisdell, at East Kingston, N. H., ten years ago.

John S. Currier, at East Kingston, N. H., twenty-five years ago.

John P. Rundlett, at East Kingston, N. H., twenty-five years ago.

Ruel Hill, at East Kingston, N. H., twenty years ago.

John B. Merrill, at East Kingston, N. H., twenty-five years ago.

Charles E. Morrill, at East Kingston, N. H., twenty-five years ago.

Phillip Ring, at South Hampton, N. H., fifteen years ago.

John Eaton, at Kingston, N. H., twenty years ago.

Daniel Colcord, at Kingston, N. H., fifteen years ago.

Samuel Colcord, at Kingston, N. H., twenty-five years ago.

Major Clark, at Kingston, N. H., twenty-five years ago.

George T. Stacy, at Exeter, N. H., twenty years ago.

Folsom Brothers, at Exeter, N. H., twenty years ago.

Alden Brown, at Newtown, N. H., twenty years ago.

I can't seem to think of names; there is any quantity more of them in use.

Int. 19. Whether or not parties named by you in your last answer, or some of them, have continued to use said machines, more or less, from the time you named to the present?

Ans. They have.

Int. 20. Who manufactured machines like said exhibit at or about the time you purchased yours, and who since, if you know?

Ans. George W. Fitz, of South Hampton, N. H. I don't know of any one else.

257 Int. 21. How long did he manufacture such machines, to your knowledge?

Ans. He commenced manufacturing these machines as soon as the year 1837. He was at work at it for four or five years most all of the time.

Int. 22. State generally to what extent George W. Fitz manufactured these machines like said exhibit.

Ans. I suppose that they all went throughout New England.

Int. 23. Do you know whether or not he built large quantities of them to supply the trade generally in that vicinity?

Ans. Yes; he built large quantities of them.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 24. Will you take the blank marked Exhibit Nichols 1 and pass it between the rolls, just as you are accustomed to pass stock of like solidity and temper to make counters, and state if, after it has been passed through, that represents the counter you made?

Ans. I will and do. It doesn't concave them as much as sole-leather of the right temper.

(The counter referred to is offered in evidence and marked "Exhibit Nichols 1, T. H. W., examiner.")

Cross-int. 25. Would you pass it through again if you were making counters of that material?

Ans. Yes; I should.

Cross-int. 26. Please take Exhibit Nichols 2 and pass it through the rolls as many times as you would if making a counter from it, and say if it is like the counters you made?

Ans. I am not in the habit of working that kind of stock. I have passed it through twice. That is nearly the same as the counters I made.

(The counter referred to is offered in evidence and marked "Exhibit Nichols 2, T. H. W., examiner.")

Cross-int. 27. Please take Exhibit Nichols 3 and pass it through the rolls as you would do if making a counter of it, and then say how many times you have passed it through, and if it is like or unlike the counters you made?

258 Ans. I passed it through once. It is similar to the counters I make from leather.

(The counter referred to is offered in evidence and marked "Exhibit Nichols 3, T. H. W., examiner.")

Cross-int. 28. Of substantially the same form, is it?

Ans. Yes.

Cross-int. 29. Please pass Exhibit Nichols 4 through the rolls twice and state whether it then resembles in form the counters you made on the machine?

Ans. I have done as requested and it now resembles the counters I made on the machine.

(The counter referred to is offered in evidence and marked "Exhibit Nichols 4, T. H. W., examiner.")

JOHN W. NICHOLS.

Attest:

THOS. H. WAKEFIELD,
Special Examiner.

Deposition of Elbridge Sheldon.

BOSTON, *Dec.* 11, 1878.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. Elbridge Sheldon; age, 64; reside at Haverhill, Mass.; am a machinist and shoe-tool manufacturer.

Int. 2. How long have you been a machinist and shoe-tool manufacturer?

Ans. Some over twenty years.

Int. 3. All the time in Haverhill?

Ans. Yes, sir.

Int. 4. Whether or not you had a partner at any time in your said business; and, if so, who was he, when, and how long did that partnership exist?

Ans. I did have a partner. His name was Samuel Brainard. I can't give you the exact time. It lasted between four and five years.

259 It was more than fifteen years ago, and perhaps twenty or twenty-five years ago.

Int. 5. Whether or not during that partnership your said firm manufactured machines for rolling leather, among other things?

Ans. They did.

Int. 6. Will you look at the machine marked Exhibit Nichols Machine and state what that represents?

Ans. It represents the same machine that we manufactured, with the exception of a wooden frame. Those we manufactured had a wooden frame.

Int. 7. Please state generally to what extent you manufactured machines substantially like machine Exhibit Nichols Machine, having the wooden frame instead of the iron frame?

Ans. Well, one hundred and upwards.

Int. 8. What did you do with them?

Ans. We sold them to parties to sell again and to shoemakers.

Int. 9. Whether or not you manufactured said machines during the period of your said partnership from year to year?

Ans. We did.

Int. 10. What was the material of the rolls?

Ans. Mostly of cast-iron. I think we manufactured some of composition.

Int. 11. Whether or not the rolls were of about the same length as these shown in this exhibit; if not, how otherwise?

Ans. Well, in my best judgment they were of the same length, not varying a half inch either way, longer or shorter.

Int. 12. Whether or not the convex roll had about the same convexity and the concave roll about the same concavity as these shown on this exhibit; if not, how were they?

Ans. Well, we manufactured by the dozen of the same convexity and concavity as these; it might be to suit shoemakers that we made them sometimes more convex and concave.

Int. 13. State, so far as you know, where those machines made by you were used.

Ans. We sold by wholesale a great many mills to go to Farmington, N. H., and in and about town to shoemakers, and some to manufacturers.

260 Int. 14. State, if you know, whether machines like said exhibit have continued to be used in the trade considerably since the time you manufactured them as stated.

Ans. In my judgment they have. After I sold out the parties I sold out to continued to sell them, more or less, but I can't say how long.

Int. 15. To whom did you sell out, and about when?

Ans. Samuel Brainard. I can't give you the definite time.

No cross-examination desired.

ELBRIDGE SHELDON.

Attest:

THOS. H. WAKEFIELD,
Special Examiner.

Deposition of John H. Emery.

BOSTON, *Dec.* 11, 1878.

Direct examination by T. L. WAKEFIELD, Esq., counsel for defendants:

Int. 1. State your name, age, residence, and occupation.

Ans. John H. Emery; age, 33; reside at Chelsea, Mass.; am a machinist.

Int. 2. How long have you been a machinist?

Ans. Some eleven years.

Int. 3. Whether or not you have at any time worked for Bisbee & Endicott, in Chelsea?

Ans. I have.

Int. 4. When did you commence there, and how long have you worked for them?

Ans. About six years. I commenced there about September, 1872.

Int. 5. Whether or not while in the employ of Bisbee & Endicott you did any work upon a machine for making heel-casings for John R. Moffitt, the complainant?

Ans. I did.

Int. 6. Will you look at the exhibit now shown you, marked Exhibit Machine No. 3, and state whether or not that is, or resembles, the machine you worked upon for John R. Moffitt?

261 Ans. It is, as near as I can remember.

Int. 7. Will you state what parts of the machine you worked upon and what parts you had furnished you to work upon?

Ans. I had two rolls and two gears furnished me in the rough.

Int. 8. What work did you do upon the rolls and gears?

Ans. I turned the rolls and chucked or bored the gears.

Int. 9. Which of the gears upon that Exhibit Machine No. 3 did you do that work upon; please describe?

Ans. The two spur-gears nearest the rolls.

Int. 10. Will you look carefully at the two rolls upon that exhibit and state whether or not, in your judgment, those are the two you turned?

Ans. They are, as near as I can judge.

Int. 11. In turning those rolls did you or not adapt them to any particular guide or casing; and, if so, what?

Ans. To the best of my knowledge, I did. I believe that I was furnished a pattern by Mr. Moffitt.

Int. 12. What kind of a pattern; whether or not a metallic heel-casing?

Ans. It was a pattern made of a piece of tin.

Int. 13. Did you have any other parts of said exhibit, or like them, to adapt the rolls or connect them with in said machine?

Ans. I believe I did not.

Int. 14. Whether or not you saw any of the other parts of said machine than those you worked upon at Bisbee & Endicott's?

Ans. I believe I did not.

Int. 15. Whether or not you saw any other of the workmen at Bisbee & Endicott's employed in making any parts of said exhibit, Exhibit Machine No. 3?

Ans. I did.

Int. 16. Whom did you see working upon it?

Ans. Mr. Elijah Endicott.

Int. 17. What part did you see him at work upon?

Ans. These parts, called the pressure-bar.

Int. 18. State particularly as you can what you saw Mr. Elijah Endicott doing upon that pressure-bar.

262 Ans. Drilling holes in the bar, and chipping, I suppose you would call it, on the guide between the rolls.

Int. 19. State as nearly as you can when it was that you saw this work done upon the pressure-bar by Mr. Elijah Endicott.

Ans. It was some time after I was done working on the machine. I cannot give the exact time.

Int. 20. When was it that you worked upon the machine? State as nearly as you can.

Ans. I should be unwilling to state, because I do not know the exact time.

Int. 21. About how long ago?

Ans. I should decline answering the question. I do not know.

Int. 22. Will you please state as nearly as you can the year, or about the year, that you did the work referred to on this machine?

Ans. Somewheres about 1876.

Int. 23. Did you see any other person except Mr. Elijah Endicott do any work upon that machine?

Ans. I did not.

Int. 24. At the time you saw Mr. Endicott at work upon the pressure-bar what other parts of the machine did you see there at Bisbee & Endicott's, if any?

Ans. None except what is before me now.

Int. 25. Did you then see all the machine that is now shown in this exhibit?

Ans. I did.

Int. 26. Was it then in parts or all put together as is now shown in the exhibit, after Mr. Endicott had completed the pressure-bar?

Ans. As it stands at present before me now.

Int. 27. Please state whether or not you saw the block in which the rolls are journaled there at Bisbee & Endicott's at any time before you commenced work upon the rolls as you have stated.

Ans. I did.

Int. 28. Where was it when you saw it, and for what purpose was it being used, if for any?

Ans. I saw it in two different places. It was used as a cross-feed for turning large wheels.

Int. 29. Do you mean in both places where you saw it, or only in one, where it was so used?

263 Ans. Only in one.

Int. 30. Where was it the other time you saw it?

Ans. I suppose you may call it among cast-off machinery. I don't mean cast-off junk, I only mean cast-off machinery. It was upstairs in the store-room.

Int. 31. Was the block when you saw it in the store-room alone, or had it any of the parts attached to it as shown in this exhibit?

Ans. It was alone.

Int. 32. Do you know who made the two undergears shown in this exhibit, or the frame or crank?

Ans. I do not.

Int. 33. How long was the block part of this exhibit used as a cross-feed upon the lathe, as mentioned by you? State as nearly as you can.

Ans. It might have been used six months, and it might have been used a year.

Int. 34. Did you see anything made upon the machine marked Exhibit Machine No. 3, after it was completed?

Ans. I did not.

Int. 35. When you state in answer to the 14th int. in substance that you believe that you did not see any other parts of that machine than those you worked upon, do you mean at the time you worked upon said machine?

Ans. I do.

No cross-examination desired.

J. H. EMERY.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of William C. Wise, recalled.

BOSTON, *Dec.* 16, 1878.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. State your name and whether you have previously testified in this case.

Ans. William C. Wise. I have.

264 Int. 2. Please state whether or not, since your previous testimony in this case, you have made any heel-casings upon the machine marked Exhibit Wise Model, so far as they were to be completed upon such machine; and, if so, will you produce such casing to be marked as an exhibit in this case?

Ans. I have made one which I have with me, made by this machine as it now stands.

(The casing produced is offered in evidence and marked "Exhibit Wise No. 3. T. H. W., examiner.")

Int. 3. How, if at all, was said Exhibit Wise Model mounted and arranged when you made said Exhibit Wise No. 3, differently from what it was when you gave your former testimony in this case?

Ans. The machine was, when I gave my former testimony, without a crank, and also without the vise. When I made Exhibit Wise No. 3, the machine was placed in a vise and the vise was fastened to a box, and the whole apparatus placed on the table; I then made Exhibit Wise No. 3. It also had the crank on it, which was with the machine when I finished it, and sent the machine to Mr. Moore.

Int. 4. Have you a blank for heel-casing substantially like the one of which you made Exhibit Wise No. 3; if so, will you produce it to be marked as an exhibit in this case?

Ans. I have, and now produce it.

(The blank produced is now offered in evidence and marked "Exhibit Wise No. 4, T. H. W., examiner.")

Int. 5. How do the blanks shown in Exhibit Wise No. 4 and the one which you used in Exhibit Wise No. 3 compare with the blanks made from the pattern Exhibit Wise No. 2?

Ans. The blank Exhibit Wise No. 4 is substantially the same as the blanks made from Exhibit Wise No. 2, with one or two exceptions. The edge of Exhibit Wise No. 4 is a little uneven; that is all the difference. The blank used in Exhibit Wise No. 3 is about the same as Exhibit Wise No. 4.

Int. 6. How does the stock in said Exhibits Wise No. 3 and Wise No. 4 compare with the stock used in Exhibit Wise No. 1?

Ans. The stock in Exhibits Wise No. 3 and No. 4 is a little lighter than the stock Exhibit Wise No. 1 is made from.

265 Int. 7. Did you prepare the blanks for Exhibits Wise No. 3 and No. 4; if not, who furnished them to you?

Ans. No, sir; I did not. Mr. Moore furnished me the blanks of Exhibits Wise No. 3 and No. 4.

Int. 8. Please describe how you made said Exhibit Wise No. 3, and

state how that method compared with the method in which you made Exhibit Wise No. 1.

Ans. The blank of Exhibit Wise No. 3 was placed in between the rolls, round edge nearest the flange, and passed back and forth between the rolls until the desired shape was obtained, the same as Exhibit Wise No. 1.

Int. 9. Please state how you held the blank and turned the rolls during that process of constructing Exhibit Wise No. 3?

Ans. The blank of Exhibit Wise No. 3 was placed in the rolls with the left hand, the machine was then turned with the right hand, and the blank was rolled back and forth until the concave or convex was obtained. Afterwards the thumb of the left hand was pressed on the upper side of the blank to make the circle of the casing. This blank was rolled back and forth in the machine until the circle was obtained the same as Exhibit Wise No. 3.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 10. Where and when was Exhibit Wise No. 3 made?

Ans. Exhibit Wise No. 3 was made in this office, this morning.

Cross-int. 11. Have you ever made any other casing on machine Exhibit Wise Model, save this one Exhibit Wise No. 3?

Ans. Yes, sir; I have. I think I have made one more besides Exhibit Wise No. 3.

Cross-int. 12. When, and where?

Ans. That one was made about the same time that I made Exhibit Wise No. 3, and at the same place.

Cross-int 13. Have you that with you; and will you produce it?

Ans. I have, and do.

Cross-int. 14. How many times did you run the blank through the rolls in order to get the concave and convex?

Ans. A half a dozen times, perhaps, more or less.

266 Cross-int. 15. If you know exactly how many, please state.

Ans. I do not know exactly, but can tell by trying another blank.

Cross-int. 16. You did not press your thumb upon the blank with the view of effecting its form while you were obtaining the convex and concave form, did you?

Ans. No, sir; I did not.

Cross-int. 17. How many times did you pass the blank through the rollers to get the circle?

Ans. About three times, more or less.

Cross-int. 18. Will you examine a blank now shown you, and state whether the iron is of the same thickness with the iron of which Exhibit Wise No. 1 is made?

Ans. I have examined the blank just handed to me by Mr. Moffitt, and should say it was about the same gauge as Exhibit Wise No. 3.

(The blank produced is offered in evidence and marked Complainant's Exhibit Wise No. 5, T. H. W., examiner.)

Cross-int. 19. Will you please take the blank last produced and pass it through the rolls of Exhibit Wise Model and make a heel-casing as perfect as you can, keeping an account of the number of times you pass it through to form the concave and convex, and the number of times you pass it through to form the circle?

Ans. I will, sir; with pleasure. I have done as requested, and have passed it through four times to procure the concave and convex, and

eight times for the circle, and the thumb being pressed to get the circle four times. I run it back without pressing the thumb. In counting the times I count the forward motion as one passing, and the backward motion as another.

Direct examination resumed:

Int. 20. Whether or not in turning the blanks into the forms shown in Exhibit Wise No. 3 and Complainant's Exhibit Wise No. 5 you operated the machine Exhibit Wise Model substantially the same as you did the original machine under Mr. Moffitt's direction in producing the form of Exhibit Wise No. 1?

Ans. I did operate the machine substantially the same with one exception, and that is in making Exhibit Wise No. 1 I opened the rolls to start with and placed the blank between the rolls, applying
267 the pressure gradually. After the concave and convex and circle were obtained, I then opened the rolls and took the casing out. My reason for not rolling these casings the same as Exhibit Wise No. 1 were that I did not deem it necessary to make the corners straight, as I have stated before. In rolling Exhibit Wise No. 5 the pressure was the same as in rolling Exhibit Wise No. 3. The difference in rolling these two casings was substantially the same as Exhibit Wise No. 1. Instead of opening the rolls I left them with the same pressure as I had on Exhibit Wise No. 3. All the difference was that the blank of Exhibit Wise No. 5 was passed in without changing the pressure.

Int. 21. Whether or not in your last answer, by the phrase "the difference in rolling these two casings was substantially the same as Exhibit Wise No. 1," you mean the rolling of Exhibit Wise No. 3 and Exhibit Wise No. 5 differed substantially the same from the rolling of Exhibit Wise No. 1?

Ans. I mean to say that Exhibit Wise No. 3 and Exhibit Wise No. 5 were rolled the same as Exhibit Wise No. 1, with one exception. The rolls in making Exhibit Wise No. 1 were opened and Exhibit Wise No. 1 placed in between the rolls and then the pressure applied. In making Exhibit Wise No. 3 and Wise No. 5 the pressure was set before the casing was put between the rolls, giving the casings Exhibit Wise No. 3 and No. 5 a concave shape on or near the corners which is not on Exhibit Wise No. 1. This is all the difference there was in making Exhibit Wise No. 3 and No. 5 from Exhibit Wise No. 1.

WILLIAM C. WISE.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of Stephen Moore.

Direct examination by T. L. WAKEFIELD, Esq., counsel for defendants:

BOSTON, *Dec.* 16, 1878.

Int. 1. State your name and whether you have previously given your testimony in this case.

Ans. Stephen Moore, and I have previously testified in this case.

Int. 2. Whether or not you furnished the blank of which Exhibit
268 Wise No. 3 was made, and the blank Exhibit Wise No. 4; and, if so, from what pattern or guide you made them?

Ans. I did furnish the blanks inquired of. They were made from the pattern Exhibit Wise No. 2.

Int. 3. If you furnished any of the parts for Exhibit Wise Model to Mr. Wise, please state what such parts were you furnished, and from what you derived them.

Ans. I furnished the cast-iron block forming the body of the machine and the bushings therein contained. I also furnished two shafts which do not appear in the Exhibit Wise Model. I had these parts made from measurements I took from Exhibit Machine No. 3.

Int. 4. How does the block of Exhibit Wise Model compare with the block in Exhibit Machine No. 3?

Ans. It is not so wide in a direction at right angles to the axis of the rollers, but otherwise I believe is substantially the same.

Int. 5. Whether or not you have examined the machine Exhibit Nichols Machine and understand its construction and mode of operation?

Ans. I have, and think I do.

Int. 6. Whether or not you have examined the specification and drawings of Complainant's Patent Reissue No. 6162, in controversy in this suit, and understand the same, and the construction and mode of operation of the machine therein described?

Ans. I have, and think I do.

Int. 7. Will you please compare the former A, of Fig. 2 in the drawings of said reissue patent, with the convex roll in Exhibit Nichols Machine and state as to their likeness or unlikeness in their construction and mode of operation?

(Objected to because the witness has not been shown to be qualified to speak upon the matter inquired of.)

Ans. The principle difference between the two, to my mind, is this: A cross-section of the convex roll in Exhibit Nichols Machine would be a circle at whatever point such cross-section was taken, while a cross-section of the former A, of Fig. 2 in the patent inquired of, would not be a circle, but elongated—somewhat of a heel shape. The contour in a longitudinal direction of the former A spoken of
269 also differs somewhat from the longitudinal contour of the convex roll in Exhibit Nichols Machine. In forming counters upon the Exhibit Nichols Machine, the curve from end to end would naturally be an arc of a circle, which would not be the result in the use of the former A of Fig. 2 of the patent were the counter to extend around said former as shown by the dotted line in the drawing. There would also be a shape given to the counter crosswise, differing from that given by the convex roller in Exhibit Nichols Machine, somewhat as the longitudinal contour of the former A differed from the longitudinal contour of the convex roll in Exhibit Nichols Machine.

Int. 8. Whether or not a heel-seat would be formed by the operation of either the Exhibit Nichols Machine or the former A of figure 2 in its operation in the machine described in said patent?

Ans. There would not, as I understand the term heel-seat and as it is understood in the trade, as far as my knowledge extends.

Int. 9. Will you explain more particularly what you understood by the heel-seat, as indicated in your last answer?

Ans. I understand by the term heel-seat that part of the counter which has been turned at nearly right angles to the body of the counter, and that to be formed there should be a somewhat definite angle between it and the body of the counter. This heel-seat is at the lower edge of the counter, the part that turns under the sole of the shoe.

Int. 10. Will you look at the paper now shown you, to be marked as an exhibit in this case, and state what it represents?

Ans. Fig. 1 of said paper represents a longitudinal section of the

rolls of Exhibit Nichols Machine. They are made on a scale of half size. Fig. 2 represents the former A and roll C of Fig. 2 of the patent reissue No. 6162, inquired of in int. 6, enlarged about two and one-sixth times from the drawing in the patent.

Fig. 3 shows a former and roll, the former being somewhat less convex and the roll less concave than the former and roll of Fig. 2 of the paper shown me.

Fig. 4 shows a former and roll, the former being more convex than Fig. 1 and less convex than Fig. 3 and the roll conforming to the former as in the other figures.

This series of Figures 1, 4, 3, and 2 show intermediate steps
270 from the shape of the rolls in Exhibit Nichols Machine to that of the former and roll in Fig. 2 of the patent spoken of. I should have stated that Fig. 2 of the paper now shown me represents the former A of Fig. 2 of the reissued patent spoken of as it would be if it were made circular in cross-sections, preserving the same contour longitudinally as shown in the reissued patent.

(The paper referred to is now offered in evidence and marked "Exhibit Moore Drawing, T. H. W., examiner.)

Noon recess to 2.30.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 11. Can you make counters on the Nichols machine?

Ans. I hardly know what to understand is meant by making counters. A flat counter could probably be curved slightly in both directions on the Nichols machine.

Cross-int. 12 Could you make counters shaped to any last, to put upon the market for sale as counters, on that machine?

Ans. Counters made on that machine would probably not conform exactly to any last, and very few counters which are put upon the market, as far as my knowledge extends, do fit any last perfectly; but a great many counters are made and sold which are slightly concaved or curved in two directions, which are acceptable to the trade because they cost less than a perfectly moulded counter.

Cross-int. 13. Do you mean by your last answer that counters can be made on the Nichols machine that would have been acceptable to the trade any time within four years?

Ans. I think counters made on that machine, if of leather and properly made, would be far more acceptable than if they were flat. I think if made of leather-board they would be more acceptable than if flat, but not so acceptable as they would be if the rolls should be more convexed and concaved.

Cross-int. 14. You do not answer my question, which is, do you think or mean to say that counters made on that machine would be acceptable as an article of manufacture to the trade, or would have been at any time within four years?

Ans. I thought I had answered your question plainly, but I will
271 explain. Counters are sold to the trade of various shapes from perfectly flat to what is termed full moulded counters, and all the way between these shapes. All these, from flat to full mould, are acceptable to the trade, the price varying usually somewhat with the degree of curvature given to the counters. By curvature I mean curved in both directions. Therefore I say that counters made on the Nichols machine would be acceptable to the trade if the price corresponded with the shape.

Cross-int. 15. Did you ever know any counters sold in the market as counters that had been made on the Nichols machine, or on machines substantially like it?

Ans. I have seen counters which were curved very slightly, but am unable to say on what kind of a machine they were made. Such counters I have not seen offered for sale with my own eyes, but have seen them handed about as samples of what was offered for sale. I have never seen counters sold in the market which I knew of my own personal knowledge were made on the Nichols machine or on one like it.

Cross-int. 16. Did you see Mr. Nichols make something called counters on that machine here the other day?

Ans. I did.

Cross-int. 17. Did he manage the operation skillfully and like an expert in the business of making counters on that machine?

Ans. I thought he did fairly, as far as he could, with the stock in the condition it was, and the machine as it was.

Cross-int. 18. Was anything the matter with the machine; and, if so, what?

Ans. The machine was evidently intended for leather and not leather-board counters. Leather counters are usually quite thick in the middle and taper gradually to the edges, so that the machines with the rolls conforming as they now do will press much harder on the central parts of the counter, and by slightly stretching the central parts give the counter a somewhat curved form in two directions. For shaping leather-board counters by rolls, which counters are usually nearly of an even thickness throughout, the rolls should not exactly conform,
but the convexity of the convex roll should be slightly greater
272 than the concavity of the concave roll, so that a greater pressure
may be exerted on the central parts of the counter than near the edges, so that the same effect may be produced on the leather-board counters as would be produced on the leather counter by the machine as it now stands.

STEPHEN MOORE.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

EVIDENCE FOR COMPLAINANT.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, as amended, before me.

CHAS. F. SLEEPER,
Special Examiner.

Present, Edward F. Hodges, esq., of counsel for complainant.
James E. Maynadier, esq., " " "
Thomas L. Wakefield, esq., of counsel for defendants.

Defendants' counsel puts in evidence a copy of patent to Joel Blood, dated Sept. 13, 1870, numbered 107216, marked Exhibit Blood Patent, C. F. S., sp'l ex'r.

Deposition of James Tetlow.

BOSTON, *Dec.* 19, 1878.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. James Tetlow; 55; Chelsea, Mass.; boiler-maker and steamship-maker, &c.

Int. 2. Do you know John R. Moffitt; if so, when did you become acquainted with him?

273 Ans. Yes, sir. In Chelsea, in the early part of '67.

Int. 3. Did he at that time show any machine to you? If so, state what the machine was for, and what its construction was, so far as you can recollect: and state also what particularly struck you at the time about the machine.

Ans. He did. It was for bending strips of iron in two directions. To the best of my knowledge the machine was like that (Exhibit Machine No. 3). The most particular thing that struck me was this thing for holding the strips up to the rollers either this way or that way. (Witness takes hold of the pressure-bar and moves it back and forth.)

Int. 4. When was this?

Ans. It was in the early part of '67. It was before I went to Europe.

Int. 5. When did you go to Europe?

Ans. Either the very last part of July or the first part of August. I can ascertain, by looking over papers, exactly—year '67.

Int. 6. What experience had you then had in metal working and shaping metal?

Ans. I had been in the business—that had been my business ever since I had followed my profession, bending and shaping metal. I think forty years go.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 7. What time in 1867 did you become acquainted with John R. Moffitt?

Ans. I couldn't exactly say the date, but it was in the forepart of '67. 'Twas the first time I saw this machine.

Cross-int 8. In what month? State as nearly as you can.

Ans. I couldn't say. 'Twas before I went to Europe.

Cross-int. 9. Was it in the winter, or spring, or summer?

Ans. I couldn't positively say. My impression is, though, that it was cold weather.

Cross-int. 10. Are you sure that it was not as early as May or June that you went to Europe that year?

Ans. I know that it was not, positively.

Cross-int. 11. Are you sure that it was not later than the last of July or first of August that you went to Europe that year?

274 Ans. I am sure that it was either in July or August, but to the best of my knowledge it was in August.

Cross-int. 12. In what steamer or vessel did you go, and who was the commander?

Ans. In the Cunard steamer Scotia, Captain Judkins.

Cross-int. 13. How long were you abroad at that time?

Ans. I don't exactly remember, but over six months.

Cross-int. 14. Had you ever seen and been acquainted with Mr. Moffitt before he described to you the machine you have mentioned?

Ans. I think it's possible that I had seen him, but never been introduced to him or spoken to him.

Cross-int. 15. Where did you see him on this occasion, when he showed the machine you have spoken of?

Ans. At Mr. Bisbee's shop in Chelsea.

Cross-int. 16. Who else was present besides yourself and Mr. Moffitt, if any one?

Ans. I'm under the impression, but I can't say sure, that it was Mr. Bisbee. I think Mr. Bisbee gave me the introduction.

Cross-int. 17. What was first said about the machine, and who said it?

Ans. Mr. Moffitt said that he was getting up a holder for a shoe-heel, to hold rubber, and called my attention to the machine, to the peculiarity of the modes of bending. I told him that this was a left-handed machine, made for a left-handed man. I remember distinctly I told him it was more natural to have the lever on the other side. (Witness illustrates by putting his left hand on the handle of the crank and his right hand on the pressure-bar, and then put his right hand on the handle of the crank and held his left hand on the opposite side of the machine from the pressure-bar.)

Cross-int. 18. Have you now stated all that transpired at that interview between you and Mr. Moffitt?

Ans. I don't think I have. I've stated all that I distinctly remember at present.

Cross-int. 19. How long did that interview last?

Ans. I couldn't exactly say.

Cross-int. 20. When did you next see Mr. Moffitt?

275 Ans. After I returned from Europe; and I have seen him occasionally from that time to this.

Cross-int. 21. When did you next see the machine referred to, after the time you have mentioned?

Ans. I don't remember to have seen it again. I may have done so, but never examined it until I saw it this morning.

Cross-int. 22. Have you been abroad any time since the time you named?

Ans. Yes, sir; this year.

Cross-int. 23. At any other time?

Ans. No, sir.

Cross-int. 24. Whether or not you have visited Bisbee & Endicott's place of business at any other time than that named by you when Mr. Moffitt showed you the machine? And, if so, when?

Ans. Yes, sir; frequently.

Cross-int. 25. How frequently between 1867 and the present time? State as nearly as you can.

Ans. Probably from fifty to seventy-five times.

Cross-int. 26. Have you had work done there?

Ans. A great deal, first along.

Cross-int. 27. Was anything made upon the machine by Mr. Moffitt while you were there?

Ans. Yes, sir.

Cross-int. 28. Did you work upon it?

Ans. I think that I turned it once.

Cross-int. 29. How was the machine mounted and attached so as to be firm?

Ans. I think similar to it is at the present time; either that or a plank put across two horses; but it it was similar to what it is at the present time.

Cross-int. 30. You mean standing on a horse as it now stands, or upon a plank resting upon two horses, temporarily?

Ans. I couldn't say positively which, but to the best of my knowledge it was attached to a plank that rested on two horses. I think it was a plank, because there were strips used for that purpose laid on the left-hand side.

Cross-int. 31. Had it an iron frame or angle-iron as is now

276 shown on the machine, which was fastened to that plank by bolts or screws?

Ans. I'm under the impression that it was fastened as it is now, by bolts to the plank, but I can't say positive as to that.

Cross-int. 32. Had it at that time the iron frame bolted to the cast-iron block in which the rolls were journaled as is now shown in this Exhibit Machine No. 3?

Ans. I am very sure it was. I know that the power was imparted to the rollers by the crank.

Cross-int. 33. Can you positively say whether there were two, three, or four cogged wheels geared underneath the block at the time Mr. Moffitt showed it to you?

Ans. There was two bevel gears as it is now to drive the rollers, and a bevel gear on the main shaft and a bevel gear on the first roller-shaft. I should have said two bevel gears on the first roller-shaft and one bevel gear on the second roller-shaft to take its power from the first one.

Cross-int. 34. Will you swear that the crank you now see on Exhibit Machine No. 3 is the same identical one that you saw on the machine when Mr. Moffitt showed it to you?

Ans. No, sir; I will not swear that it is the same crank, but I know that the crank that I saw on the machine was on the left-hand side as this is now. I don't know that this is the same machine, but the principle is the same.

Cross-int. 35. What has been your occupation since 1867? State particularly.

Ans. I have done but very little business of any kind; traveled a good deal; for the last three years I've been exploring the gold mines in Maine.

Cross-int. 36. Please state whether at the time Mr. Moffitt showed you the machine which you say was like the machine No. 3 you noticed whether there was a space underneath the base of the convex roll as is now shown in this exhibit.

Ans. I do not remember distinctly. All that I know is that it bent the iron in two ways.

Cross-int. 37. Did you keep any memorandum of the time when Mr. Moffitt showed you that machine?

Ans. No, sir.

277 Cross-int. 38. Do you remember any other particular interview that you had with Mr. Moffitt, from that time till about to give your evidence in this case?

Ans. Not particularly. I've seen Mr. Moffitt's machines from time to time, in course of construction at Mr. Bisbee's, as I passed in and out.

Cross-int. 39. At the time referred to, when he showed you this machine, what was the appearance of the machine, whether new or otherwise?

Ans. I didn't particularly notice whether it was new or old. It looked like an inventor's experiment.

Cross-int. 40. When did you first see this machine, now before you, marked Exhibit Machine No. 3?

Ans. I can't say. I may have seen it in '67. I saw a machine that looks like it, and I saw it this morning. The machine shown to me by Mr. Moffitt was the same in principle, and looked like this.

Cross-int. 41. When did you first see this machine (Exhibit Machine No. 3) after '67?

Ans. What day of the month is to-day? If the Boston Herald tells the truth it was December 19th, 1878, about half past nine o'clock in the morning.

Cross-int. 42. When did you first have any conference with Mr. Moffitt about the machine he showed you and your testimony in this case?

Ans. On the 18th day of December, 1878.

Cross-int. 43. How long a conference did you have with him then?

Ans. Very short; not to exceed five minutes.

Cross-int. 44. Did you also have a conference with him this morning, before giving your evidence?

Ans. Perhaps ten or fifteen minutes.

Cross-int. 45. Then, if I understand you rightly, your attention has never been called to the pressure-bar on the machine shown you by Mr. Moffitt in 1867 until December 18th or 19th, 1878; is that so?

Ans. The machine has never been called to my attention at all in any way since 1867 until I saw it this morning.

278 Redirect by E. F. HODGES, Esq.:

Int. 46. Please state to what extent you had conducted the business of boiler and steamship maker prior to 1867; and if you have built any vessels, please name them, and whether or not you were contractor for such building.

(Objected to as immaterial and incompetent.)

Ans. I commenced business in Salem, Mass., about thirty years ago. I did a business there equivalent to about $150,000 a year. I came, about twenty-five years ago, to East Boston; did a considerable larger business there. In 1861 I contracted with the Navy Department of the United States to build them two iron steam-vessels, the Fortune and the Speedwell. I was also sub-contractor of the U. S. light battery Shawnee, also for four revolving turrets of the Dictator class. In '62 I contracted with the Navy Department to build them four more iron steamers. Well, I've got the names mixed; I built six: the Fortune, Speedwell, Standish, Mayflower, Palos, Leyden. Boilers for the Pocahontas and other vessels afloat, I don't know how many. That's a part of what I've done. I couldn't tell you how much more.

Recross examination:

Cross-int. 47. Whether or not some time since 1862 you have taken or attempted to take the poor debtor's oath; and, if so, when?

Ans. Yes, sir. I couldn't recollect when it was.

Cross-int. 48. State as nearly as you can.

Ans. Possibly three or four years ago.

JAMES TETLOW.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of Albert Bisbee.

BOSTON, *Dec.* 19, 1878.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. Albert Bisbee; 74 to-day; Chelsea; iron foundry and general machinery.

279 Int. 2. If you have a partnership firm name, please give it.

Ans. Bisbee, Endicott & Co. now.

Int. 3. What name was used for your firm in 1867?

Ans. I think Bisbee & Endicott at that time.

Int. 4. Do you know John R. Moffitt; and how long have you known him?

Ans. I do. I cannot positively say how long I've known him, but I should say twelve or fourteen years.

Int. 5. Please look at the machine marked Exhibit Machine No. 3, and say if you ever saw that machine, or one substantially like that; and, if so, where and when.

Ans. I should say I've seen that machine, or a considerable part of it. Well, I saw it at the time it was set up in our shop. I can't tell you when; I've no dates to go by. Well, I should say as near as I could guess, for I should have to guess at it, I should think it must have been twelve years ago or thereabouts.

Int. 6. Was it built in your shop?

Ans. I think it was.

Int. 7. Please state such parts of the machine as you remember to have seen at the time you have named, twelve years ago or thereabouts.

Ans. I saw this block (the top casting in which the rolls are journaled), that piece, (the upright angle-iron fastened to said block and to the frame.) I saw a lever (pointing to the pressure-bar), but I should think it had a round handle not like this. I refer to that lever that stood out here with a round end. I don't recollect distinctly about that pointed to the pressure-bar that is bolted or screwed to said handle, the edge of which passes partially between the rolls; can't swear to that. The general features of the machine looked as they do now, as near as I can recollect, with the exception of the handle.

Int. 8. How many gear-wheels had it?

Ans. I couldn't say positive, but my impression is that it was four.

Int. 9. Was it mounted on a frame as it is now, or how otherwise?

Ans. If my recollection serves me right, it was mounted on an
280 old wooden horse, a dirty looking thing, something similar to that horse (on which the machine is now mounted) only heavier.

Noon recess.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 10. Does your firm do a good deal of work for Mr. Moffitt?

Ans. Yes, sir; some considerable.

Cross-int. 11. Has it done a good deal for him since 1867?

Ans. Yes, sir, we have; we have worked more or less most of the time, and are still at work.

Cross-int. 12. Have you seen the machine which you say was represented by some of the parts of Exhibit Machine No. 3, or parts thereof, along from time to time since you first saw it as you have stated?

Ans. I have seen some parts of it since then, I think on what we call our wheel-lathe, within a couple of years.

Cross-int. 13. What parts of it did you see on the wheel-lathe?

Ans. My answer would be that block, and the angle-iron, and the bevel-gears that turn a square corner.

(Witness touches the block in which the rolls are journaled, the angle-iron attached to the block, and the two lower bevel-gears.)

Cross-int. 14. Were the angle-iron mentioned and the two lower bevel-gears used in any way in connection with your lathe?

Ans. I think they were.

Cross-int. 15. Were the rolls and the two bevel-gears upon the journals of the rolls used in any way in connection with your lathe?

Ans. I think they were not. It's possible this one (the one on the journal of the concave roll) might have been left on there; the other was not, nor was either of the rolls.

Cross-int. 16. Was the angle-iron, referred to, cast and attached to the block mentioned at your shop?

Ans. I think it was, although I can't say that I saw it done.

Cross-int. 17. Did you at any time see the machine like Exhibit Machine No. 3, organized as it now is, after you saw the parts mentioned by you on the lathe?

281 Ans. Yes, sir, I think I have.

Cross-int. 18. Did you see any one work upon it after so using it on the lathe?

Ans. No, sir, I think not.

Cross-int. 19. Did you know anything of Mr. Moffitt having the machine refitted after the use of some parts of it on the lathe?

Ans. I think I heard him say in the shop that they was fitting it up as it used to be. I didn't see it done, and didn't see any one at work on it.

Cross-int. 20. Can you explain how the angle-iron mentioned and the two lower bevel-gears were used upon or in connection with your lathe?

Ans. We used them so as to rig up what machinists call a cross-feed, so that we could feed it with power, and those (pointing to the two lower bevel-gears) was used to turn the corner; the shaft on which the crank is now was used with a pulley on it; it might have been a longer shaft than this. Either this shaft or a longer one passed up through the block to connect with the rest of the lathe.

(Witness refers to the shaft on the concave roller.)

Cross-int. 21. How long did you use that arrangement, described in your last answer, in connection with your lathe?

Ans. I can't say definite. For more than two years, I should think; it might have been longer.

Cross-int. 22. Where had the block and other parts used upon the lathe been kept from the time of their first construction at your shop until you used them on the lathe?

Ans. I can't say positive. I think upstairs, laid away.

Cross-int. 23. Do you know whether or not the original rolls made for Mr. Moffitt had been used for some other purpose at your shop than upon the machine?

Ans. I don't know that they ever was.

Cross-int. 24. Do you know anything of the machine, as Mr. Moffitt had it made originally, being sold at auction by anybody; and, if so, by whom?

Ans. After the machine had been made. Perhaps I ought to say that after the machine had been made there were some parties who were to pay for the machine, I don't know who, and we failed to

282 get satisfaction from them and we attached the machine, had it attached, advertised it, and sold it at auction.

Cross-int. 25. Who bought it, and for whom?

Ans. I think that Mr. Matteson, our foreman, bid it off for us.

Cross-int. 26. When was it sold? State as nearly as you can.

Ans. Well, I got my son to look at the cash-book to see the date. I think it was May, '71.

Cross-int. 27. And the parts bought by you at that sale were then put in your loft and kept there till about 1876, were they?

Ans. This part, the thing that looks like this (pointing to the machine), all of it, I think, was put in the loft—I think so—till the time we used it on the lathe, I can't recollect the date exactly; that's as near as I can recollect.

Cross-int. 28. Can you testify positively that when you bought those parts at auction, and when they were in the loft, the rolls were upon the machine?

Ans. No, sir, I cannot.

Cross-int. 29. Can you state positively that at the time of said purchase, and when in the loft, the angle-iron was attached to the block; or that the two lower gears were then upon it?

Ans. I do not recollect seeing of it from the time it was put away till I see parts of it on the lathe.

Cross-int. 30. Can you state positively that when the parts were purchased and put away they had the angle-iron and the two lower gears on the machine?

Ans. I can't say positively, but I think they had.

Cross-int. 31. If I understand you rightly, you do not recollect of seeing at any time the iron piece which is attached to the handle of the pressure-bar by bolts or screws, which passes partially between the rolls?

Ans. I can't swear positively to that piece, because I never went into the details [I could say further that I could see no earthly use for the lever unless it had that piece or something similar.]

(All enclosed in brackets objected as not responsive and incompetent.)

Cross-int. 32. Will you swear positively that you ever saw the handle part of the pressure-bar, corresponding to the one in Exhibit Machine No. 3, substantially, before seeing this one now in said machine?

283 Ans. I think I can. I saw a lever similar, but the handle, I think, was round in the room of that.

Cross-int. 33. Did you see that handle used by any person, and for any purpose; and, if so, by whom, and for what purpose?

Ans. I cannot say that I ever see it used; that is, until to-day.

Cross-int. 34. Did you examine the machine carefully, so as to notice the particular construction of each part and its use?

Ans. I did not.

Cross-int. 35. Did you ever see that machine used in your place of business for making heel-casings?

Ans. I've no recollection of ever seeing it used, although I mig t have seen it; but I've no recollection of it now.

Cross-int. 36. Do you recollect that the machine was originally made by Mr. William C. Wise, who was in your employ, under the direction of Mr. Moffitt?

Ans. I think he done the work on it, as nigh as I can recollect.

Cross-int. 37. Where was the machine kept, and what was done with it, from the time the machine was made until you sold it at auction in 1871?

Ans. I cannot recollect distinctly where the machine was kept; my impression is that it was in the machine-shop, but it might have been laid away upstairs.

Cross-int. 38. Can you state whether the handle of the pressure-bar

which you think you saw when the machine was first made, or sometime thereafter, was fitted to the shafts or journals of the rollers, or to the bushings in which those shafts or journals run?

Ans. I cannot. I never see it taken apart that I know of.

Cross-int. 39. Have you had any conversation with Mr. Moffitt as to how that machine was constructed and in relation to your evidence to be given in this case?

Ans. I have; yes, sir.

Cross-int. 40. When first?

Ans. I should think within a week or ten days.

Cross-int. 41. Have you since that first time; and, if so, how many times?

Ans. I can't say how many times, but I should say three or four; perhaps not so many.

Adjourned till Saturday, Dec. 21, at 10 a. m.

284 BOSTON, *Dec.* 21, 1874.

(Examination deferred to take the depositions of H. E. Collett and David C. Allyn.)

BOSTON, *December* 28, 1878.

Redirect examination:

Int. 42. Whether or not you have had, in the past thirteen years, business transactions with, and also through, Mr. Moffitt; and, if yea, to what amount?

Ans. We have had dealings with him most constantly for nearly all the time. My son gave me the amount, which I have no doubt is correct; directly with Mr. Moffitt was $31,000. Through him, or indirectly, was $50,000, or 51.

Int. 43. Whether or not your firm, about the year 1875, lost, or had taken from the establishment, a quantity of patterns?

(Objected to as immaterial and incompetent.)

Ans. About that time we missed a large quantity of patterns, although I must state here that I did not myself examine the room where the patterns were kept, and I can't swear positively about them; but my partners missed them and our man that takes charge of the patterns.

(The answer objected to as *heresay* and incompetent.)

Int. 44. Whether or not you or, so far as you know, any of your firm were notified when these patterns were taken, or were requested to permit them to be taken?

(Objected to as immaterial and incompetent.)

Ans. No, sir; we were not, to my knowledge.

Int. 45. Where were these patterns kept? Please describe the location and its situation in your yard.

(Same objection.)

Ans. They were kept in what was formerly a dwelling-house which we purchased, and those patterns were stored in one of the rooms. In a block of houses, there's four houses, and they opened into our yard. They were stored in what we call the fourth house. Well, the houses were on a line with a narrow street, and the front doors and windows were fastened up, and they opened into the back yard, about 150 feet from the foundry.

285 Recross-examination:

Cross-int. 46 (de bene). This room where the patterns were stored was not a part or loft of your shop, was it?

Ans. No, sir; it was not.

Cross-int. 47 (de bene). Were these patterns those in constant or frequent use, or were they old patterns that had gone out of use and were stored away?

Ans. Probably some of them were old patterns. Some of them were new. I think that a good many of the newer ones were used very often.

Cross-int. 48 (de bene). Were those lost of the old and new both?

Ans. They were both, as I understand it. I should say mostly older ones, though I'm not certain about that.

Cross-int. 49 (de bene). Did you lose the larger portion of your patterns there?

Ans. Yes, sir; I think we did.

Cross-int. 50 (de bene). Was this room where the patterns were kept, referred to, accessible to your workmen?

Ans. Well, they were not locked up; the workmen could go in if they had occasion to.

Cross-int. 51 (de bene). How many men had you in your employ then?

Ans. Can't say certain, but I should think thirty.

Cross-int. 52. Can you state when the machine referred to by you was first made at your place of business, under the direction of Mr. Moffitt?

Ans. I can't state positive, but I should say about eleven years ago; it might be more.

Cross-int. 53. Can you fix the exact time by your books, or any data which you have?

Ans. I can't now, but I think we have the whole account somewheres.

Cross-int. 54. Will you refer to your account, and furnish the magistrate with a statement of the time when the work commenced, and when it terminated, upon the machine which you say is repre-
286 sented, in whole or in part, by the Exhibit Machine No. 3, to be added as a part of your testimony in this case?

Ans. I will.

BOSTON, *Dec.* 30, 1878.

The work on the machinery of which the Exhibit Machine No. 3 is a part was commenced May 7th, 1867, and terminated August 31st, 1867.

ALBERT BISBEE.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Adjourned till Monday, Dec. 30, at 10 a. m.

Deposition of Herbert E. Collett.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

BOSTON, *Dec.* 21, 1878.

Int. 1. State your name, age, residence, and occupation.

Ans. Herbert E. Collett; 42; Malden, Mass.; machinist.

Int. 2. Do you know John R. Moffitt; and, if yea, how long have you known him, and where?

Ans. I do. I knew him in Chelsea the first time. I've known him since 1868.

Int. 3. Please look upon the exhibit now shown you, marked Exhibit Machine No. 3, and state if you ever saw that, or a machine substantially like that, before; and, if yea, when and where?

Ans. I have seen that machine, or one similar to it, in '68, at Bisbee & Endicott's machine-shop, in Chelsea.

Int. 4. Whether or not any one feature or member of the machine you refer to struck you? And, if any, name it, and mention the circumstances under which you saw it.

Ans. The general appearance of the machine attracted my attention. I had an impression that it was a tool that I should have used some time previous to that. The gears, this lever and the gears, attracted my attention. I was looking for a spindle in the tool I should have used—that is, a spindle through the gears.

Int. 5. What tool do you refer to as the one you should have used?

287 Ans. It is a drill that is clamped on to large pieces of iron for drilling, commonly called a Scotch drill.

Int. 6. Do you mean to be understood that you thought this was a Scotch drill, when you first saw it?

Ans. I do, sir, or machine for drilling iron.

Int. 7. Does the Scotch drill have a lever like the one on this machine?

Ans. No, sir, they are generally to suit the ideas of the party that make them. As a general thing the pressure is applied with a screw.

Int. 8. If you then observed that lever, what use did you suppose it served in a Scotch drill?

(Objected to as immaterial.)

Ans. I have seen drills where the pressure has been applied with a lever. It could not be used with a Scotch drill, that lever, sir.

Int. 9. Whether or not when you first saw it you then supposed it was a lever to effect pressure in a Scotch drill, until you observed more particularly its structure and parts?

(Same objection.)

Ans. No, sir.

Int. 10. Did you have any conversation with Mr. Moffitt at that time about this machine?

(Same objection.)

Ans. No, sir; not at that time.

Int. 11. Did you at any time; and, if so, when?

(Same objection.)

Ans. Yes, sir; as near as my memory serves me it was near a month after that time, probably. I could not be positive as to the date; about a month, I think.

Int. 12. Where was this conversation?

(Same objection.)

Ans. In the pattern-room, or where they make the patterns, in Bisbee & Endicott's shop.

Int. 13. Whether or not he then explained the machine to you, and its structure and uses?

(Same objection.)

288 Ans. Mr. Moffitt mentioned that was a machine which he intended to bring out; mentioned what it was for.

(Answer objected to as not responsive in giving the conversation.)

Int. 14. Was the machine then before you?

Ans. Yes, sir.

Int. 15. What did Mr. Moffitt say the machine was intended for?

(Objected to as immaterial and incompetent.)

Ans. As near as I can remember, it was for pressing strips of iron or steel. I can't remember what the material was; steel, if I remember right, and some other metal. I can't remember now. Couldn't state positively what it was.

Int. 16. Did he show you, on the machine, how he used it?

Ans. No, sir.

Int. 17. Did you or not observe the rolls on the top of the machine?

Ans. I did, sir.

Int. 18. Did he explain their uses?

Ans. No, sir.

Int. 19. Did you or not observe the pressure-bar like the one attached to the lever on Exhibit Machine No. 3, and pointed between the rolls?

Ans. Yes, sir.

Int. 20. Did or not Mr. Moffitt explain the uses of that?

(Objected to as immaterial and incompetent.)

Ans. No, sir.

Int. 21. Did or not the machine you then saw have gear-wheels; and how many?

Ans. It had gear-wheels, and, as near as I can remember, three or four.

Int. 22. Whether or not it had an upright piece like the angle-iron to which the horizontal block in which the rolls are journaled is bolted?

Ans. Yes, sir.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 23. Where were you employed in 1868?

Ans. At Bisbee & Endicott's.

289 Cross-int. 24. How long since that time have you been in the employ of Bisbee & Endicott?

Ans. About five years, I should say, sir.

Cross-int. 25. Are you still in their employ?

Ans. No, sir.

Cross-int. 26. When did you leave their employ?

Ans. In '73.

Examination deferred to take the deposition of David C. Allyn.

BOSTON, *Dec.* 24, 1878.

Cross-int. 27. Where was the machine situated when you saw it in Bisbee & Endicott's shop?

Ans. In the room where the patterns were made; outside of the storeroom.

Cross-int. 28. Did you see it more than once?

Ans. I saw it several times.

Cross-int. 29. How many times?

Ans. I couldn't be positive the number of times. I saw it once especially; and I had occasion to go up that way probably two or three times a week.

Cross-int. 30. Where was this room situated in which the patterns were made?

Ans. It was situated over the southern end, I should think, of the machine-shop.

Cross-int. 31. Was the machine there every time when you say you saw it?

Ans. The machine was there, I remember distinctly, once, the first time I saw it, and, as far as I can remember, on another occasion.

Cross-int. 32. Did you ever see it in any other place there?

Ans. Not that I remember now.

Cross-int. 33. When was it that you saw it first?

Ans. I believe it was soon after I commenced Mr. Moffitt's work; in 1868.

Cross-int. 34. Can you swear positively it was in 1868?

Ans. I could not swear positively. To the best of my belief it was about that time.

Cross-int. 35. On what machine or work for Mr. Moffitt did you commence?

290 Ans. They were the large presses that Mr. Moffitt used to make stiffenings on, after they were completed.

Cross-int. 36. What kind of stiffenings, leather or rubber, do you refer to in your last answer?

Ans. The principal part was rubber.

Cross-int. 37. Who else was present when you first saw this machine as you have stated?

Ans. I first saw it alone, sir.

Cross-int. 38. Who was present at the other time you named seeing it in that loft?

Ans. I believe it was Mr. Moffitt, if I remember rightly; I couldn't be positive.

Cross-int. 39. Do you mean to be understood as testifying that you remember Mr. Moffitt was present on that occasion?

Ans. That is the understanding, sir.

Cross-int. 40. Will you swear he was present on that occasion?

Ans. I could not, that he was on that occasion.

Cross-int. 41. When was that second occasion you remember seeing the machine?

Ans. I couldn't give the date. I made no memorandum of it; but it was while I was working on Mr. Moffitt's work.

Cross-int. 42. Did you notice at either of those times when you saw the machine whether there was a space below the base of the convex roll, as shown on this Exhibit Machine No. 3, or a shoulder or flange near the base of the convex roll?

Ans. The rolls on that machine were in the same position and form as they are now; that is, to the best of my judgment and belief. I never examined the machine very closely. I saw it wasn't the machine I had use for.

Cross-int. 43. In that machine was there a space under the base of the convex roll, as is shown in this Exhibit Machine No. 3, or not?

Ans. I had no occasion to examine the rolls, and the machine, I should judge, was in the same form that it is now, if that is the same machine.

Cross-int. 44. As you did not have occasion to examine the rolls, can you now testify, on oath, whether there was or was not a space under the base of the convex-roll as is shown in this exhibit?

291 Ans. I couldn't testify under oath that there was any space or was not, but to the best of my recollection the machine is the same as when I first saw it.

Cross-int. 45. Can you swear whether there was or was not a shoulder or flange near the base of the convex roll on that machine?

Ans. I could not, sir.

Cross-int. 46. Did you notice, so that you can now testify, whether or not the crank on that machine was attached directly to the shaft of the convex roller?

Ans. It was not connected there, sir.

Cross-int. 47. Did you think, when you first saw that machine, that it was a Scotch drill?

Ans. Not exclusively a Scotch drill, but a drill. A drill constructed on that principle would be termed a Scotch drill; I mean with the gears being at right angles with the shaft and crank.

Cross-int. 48. Will you describe that kind of drill, and explain how the shaft and crank operate the drill?

Ans. There are a great many patterns of what would be termed a Scotch drill. Any party or man manufactures a drill or Scotch drill best adapted to his work or style of business. My impressions in regard to this machine, that spindle came right through the centre of that gear (the lower gear), with a chuck or socket at the end to hold the drill, and the gears being at right angles would turn the spindle and drill. The pressure could be applied either by lever or screw. I saw it was no such machine and passed it by.

Cross-int. 49. Then as soon as you looked at it you saw it was not a Scotch drill, did you?

Ans. Yes, sir.

Cross-int. 50. You did not have to make any examination of it to determine that, did you?

Ans. Not in detail; that is, examine the small parts.

Cross-int. 51. In the drill described by you the operating points of the drill would be represented by the tops of these rollers, would they not?

Ans. No, sir.

Cross-int. 52. What part of the machine would represent the operating or cutting part of the drill?

292 Ans. The drill itself. The cutting part is at the bottom of this spindle that is carried through (witness points to the spindle on the bottom of the lower horizontal bevel-gear).

Cross-int. 53. Then you saw at a glance that this machine was not a drill, did you not?

Ans. I did, sir.

Cross-int. 54. Then you were not struck particularly with the machine after noticing it was not a drill, were you?

Ans. Not at that time, sir.

Cross-int. 55. You did not at that time notice whether or not there was a piece bolted or screwed on to the handle or lever, as is shown on this machine (Exhibit Machine No. 3), did you?

Ans. I noticed that, sir. I put my hand on this bar (the handle of the pressure-bar), and had an idea it was some feed to this drill.

Cross-int. 56. Will you explain how you had an idea that would feed the drill?

Ans. I saw at once it could not be a feed to that drill. I got the idea from the peculiarity of the tools I was using in the shop; the general construction of the tools.

Cross-int. 57. Can you explain how such a tool as that represented by the lever or handle of the pressure-bar would operate to feed the drill?

Ans. That lever or pressure-bar would not feed the drill in its present shape, sir.

Cross-int. 58. You saw that at a glance, did you not?

Ans. I did.

Cross-int. 59. What kind of lever, if any, was used to feed such drills as you have described?

Ans. The drill I've been describing is operated either by a lever or screw; in that case the lever is placed across the top of the spindle to give it pressure. The upper end of the spindle could be turned down to a male center, with a corresponding step in the bottom of the lever.

Cross-int. 60. In that case how is the lever attached to the block?

Ans. I'm not stating that there has been such a drill made, but upon that principle. There is no special block in any machine. In that case the lever would be carried out with an eye drilled in the end
293 of it, and a stud, forming a knuckle-joint, on the end of the lever.

Cross-int. 61. You saw, as soon as you cast your eye upon the machine, that the lever or handle was not such a lever as was used upon the drill, did you not?

Ans. I did.

Cross-int. 62. What was the machine standing upon, if anything, when you first saw it?

Ans. I believe that machine was on the floor, to the best of my memory. I couldn't positively say, but I believe the machine was on the floor.

Cross-int. 63. Was it attached to the floor or lying round loose?

Ans. Lying loose.

Cross-int. 64. Did you have occasion to notice particularly at that time whether or not the block in which the spindle is journaled was attached by bolts or screws to an angle-iron, as is shown in Exhibit Machine No. 3?

Ans. By bolts, sir, if I remember right; the same as is shown in machine No. 3.

Cross-int. 65. Do you mean to swear that you have a distinct memory whether the block was or was not bolted to such angle-iron?

Ans. This block was attached to an angle-iron similar to that.

Cross-int. 66. Do you mean to testify that the block and angle-iron were so bolted together, both times which you mention as having seen the machine?

Ans. As far as my memory serves me, I should testify that that block was bolted on that angle-iron.

Cross-int. 67. It being a long time since you saw the machine, as you have stated, has your mind been refreshed in relation to it at any time since that time until you came here to testify?

Ans. My attention was called, about the time I was notified about the case, what machine was meant.

Cross-int. 68. By whom?

Ans. Mr. Hughes.

Cross-int. 69. Mr. Hughes, the man in Mr. Moffitt's employ?

Ans. Yes, sir.

Cross-int. 70. Did you converse with some other party in relation to the subject-matter of your evidence before you came here to testify?

294 Ans. Not as regards the evidence. I had a conversation as to which machine was intended.

Cross-int. 71. With whom? State all except counsel.

Ans. With Mr. Moffitt and Mr. Hughes.

Cross-int. 72. When?

Ans. The latter part of last week.

Cross-int. 73. When did you next see the machine, after the two times that you have mentioned, or one that you say is substantially like it?

Ans. The next time I saw it was just previous to this case—I should judge it was the machine—at the time Mr. Hughes notified me, the same evening.

Cross-int. 74. Was this Exhibit Machine No. 3 the one you then saw, and where did you see it, and who were present?

Ans. It being in the evening, very dark, I should say it was the same machine; on Tremont Row, Mr. Moffitt's office—outside the office. Mr. Hughes and Mr. Moffitt were present.

Cross-int. 75. Did you come to Mr. Moffitt's office for the purpose of looking at the machine, or talking with him in relation to it?

Ans. I went to Mr. Moffitt's office to ask him what machine was intended in my notice. I've worked on a number of crimping-machines for Mr. Moffitt.

Cross-int. 76. At whose request did you go?

Ans. Mr. Moffitt's, I believe, sir.

Cross-int. 77. Where do you live?

Ans. Malden.

Cross-int. 78. When you first saw the handle or lever did you suppose it was a lever to effect pressure in a Scotch drill, until you observed more particularly its structure and parts?

Ans. No, sir.

Cross-int. 79. At the time you say you looked at the machine and put your hand on the lever or handle, did you notice whether the sides of the edges of the pressure-bar were concave or convex?

Ans. I did not, sir; I only noticed the general outline of the machine; the larger portion.

Cross-int. 80. Then you did not notice particularly the shape of
295 the end of this pressure-bar, the end of the pressure-bar towards the rollers, did you?

Ans. No, sir.

Cross-int. 81. Did you then notice particularly how the handle or lever was attached, whether to the rollers or to the bushing?

Ans. No. sir.

Cross-int. 82. In the drill that you have described, would there be any occasion or requirement for more than two gear-wheels?

Ans. I never saw but two used, sir.

Redirect examination:

Int. 83. Do you mean to be understood to say that you saw the machine Exhibit Machine No. 3, or one substantially like it, between the years 1868 and 1873, at Bisbee & Endicott's, only twice, or that you saw it there several times, more than twice?

Ans. I don't remember having seen it more than twice, sir; once specially. Still, I might have passed it two or three times a week.

HERBERT E. COLLETT.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of David C. Allyn.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

BOSTON, *Dec.* 21, 1878.

Int. 1. State your name, age, residence, and occupation.

Ans. David C. Allyn; 58; North Andover, Mass.; I'm farming now.

Int. 2. What was your occupation in 1867, and where were you then employed?

Ans. Was a machinist; employed at Bisbee & Endicott's, Chelsea.

Int. 3. In what capacity were you employed by Bisbee & Endicott at that time?

Ans. Foreman of the machine-shop.

Int. 4. Please look at the machine now shown you, marked Exhibit Machine No. 3, and state whether or not you have ever seen that or a machine substantially like that before; and, if yea, when and where.

296 Ans. Well, I've seen a machine like that set round in the shop. It didn't set on a block like that, but a kind of temporary thing. I couldn't describe the block to you; 'twas so long ago. The crank and the lever looks familiar. That machine had a crank and a lever. This machine I can't give you the dates. I was there in '68, and I left there, I think, in '70; couldn't swear to it.

Int. 5. Whether or not that machine you saw in the shop had gear-wheels; and, if as, how many?

Ans. Well, as far as that's concerned, I never took particular notice how many gears there were on at that time. It had gear-wheels; there was enough there to run the sheet-iron through and form it.

Int. 6. Whether or not it had the upright iron to which the block is bolted in which the rolls are journaled?

Ans. Well, it had an iron up and down the same way as this; it might have been the same one.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 7. When did you commence to work for Bisbee & Endicott?

Ans. Well, that's something I can't give you no date when I commenced to work for him. Their books will show you when I commenced there.

Cross-int. 8. In what year?

Ans. Well, I can't tell you that. I don't keep no reckoning of my life, no dates of any kind.

Cross-int. 9. How many years did you work there?

Ans. Well, I can't tell you that; it might have been fourteen or fifteen years, might have been not quite so long.

Cross-int. 10. When did you quit work for Bisbee & Endicott?

Ans. As near as I can recollect it was eight years ago this coming April, March; the last of March or first of April.

Cross-int. 11. Have you ever worked there since?

Ans. No, sir.

Cross-int. 12. Have you been back there to Bisbee & Endicott's place of business since you left; and, if so, how frequently?

Ans. I've been there about once a year since I left there. I generally call in there when I'm down this way.

297 Cross-int. 13. How do you fix the time to have been in 1868 that you saw that machine mentioned?

Ans. Well, I don't fix no time at any particular date that I saw that machine. That machine was got up before I left the shop there, and I fix that date by the time I left and went to Duxbury. From the time I left till the present time is about eight years the coming April.

Cross-int. 14. Have you any data by which you can determine and can now testify that you saw said machine before you left work there, rather than at some time since, when you have called there?

Ans. I don't keep any dates at all, but their books will show you when I commenced and when I left there.

Cross-int. 15. How are you enabled to swear that you saw the machine before you left work there, rather than at some time when you have called since?

Ans. Why, I used to clean up the shop once in a while, and the chips and pieces laying on the floor I've had to clear up, and throw out what wa'n't good for anything. I've seen the waste stuff where they was trying the machine, been tried and run through and thrown away; pieces that wasn't good, trimmings that come off, and pieces that were spoiled.

Cross-int. 16. Have you now stated all the reasons you have for determining that you saw that machine, described by you, before you left Bisbee & Endicott's employ, rather than at some time since when you have called?

Ans. I've had no occasion to clean up the shop since I left there, and have had no occasion for picking up waste. That's all the reason that I have.

Cross-int. 17. Do you know who made the original machine for Mr. Moffitt?

Ans. I don't know of anybody's working on it but Wise. He generally done Mr. Moffitt's work, that kind of work.

Cross-int. 18. How carefully, if at all, did you examine the machine?

Ans. I don't know as I made any examination at all. Mr. Moffitt generally gave his orders on his machines.

298 Cross-int. 19. Did you do any work on it?

Ans. I didn't do any work.

Cross-int. 20. Did you notice whether the convex roll had a shoulder on its base, or a space under it as is shown on this machine?

Ans. I didn't notice it so particular as that.

Cross-int. 21. Did you notice whether the lever had a piece bolted or screwed upon it, as is shown in this Exhibit Machine No. 3?

Ans. No; I didn't take notice of that particular.

Cross-int. 22. Did you notice whether or not the crank was attached directly to the shaft upon which the concave roll was placed?

Ans. That's something that I didn't notice particular. I merely see the machine run a piece of iron through.

Cross-int. 23. Whom did you see running a piece of iron through?

Ans. Mr. Wise—Wm. C. Wise.

Cross-int. 24. Do you not remember seeing Mr. Wise use the machine, having the block part in which the rolls are journaled fastened in a vise?

Ans. I don't recollect of ever seeing of him particular using it in that way.

Cross-int. 25. Who was present when you saw the machine, as you have stated?

Ans. I don't know. I don't remember of any one being present. I merely cast my eye on the machine as I was passing round the shop.

Cross-int. 26. Can you now, after this long period of time, swear pos-

itively that you saw a handle or lever like this one on this exhibit, before you left work at Bisbee & Endicott's?

Ans. I couldn't swear that it was exactly like this, but I know that there was a handle and a crank of some kind that they used to run their iron through.

Cross-int. 27. When did you first become acquainted with Mr. Moffitt, and what acquaintance have you had with him since?

Ans. I first became acquainted with him when he first began to bring his work there to the shop. Couldn't give you no date. Since I left the shop I haven't seen much of anything of him, unless I happened to meet him

Cross-int. 28. When was your attention first called to the machine that you saw at Bisbee & Endicott's, since you saw it there?

299 Ans. Well, I haven't thought anything about the machine till within about a week, I guess. Mr. Moffitt he called about a week ago to know if I could recollect any such thing.

Cross-int. 29. Did he show you any machine or model at that time?

Ans. No, sir; not at that time.

Cross-int. 30. He talked it over with you, did he, as to how the machine was constructed?

Ans. Well, he asked me if I recollected the machine that they built at that time.

Cross-int. 31. You talked the matter over together, did you not?

Ans. We talked it over nothing more than to find out what machine he meant. He's had a number of machines built there at different times.

Cross-int. 32. In that conversation you finally found out what machine was meant, did you not?

Ans. I found out what machine he wanted to find out about.

Cross-int. 33. After you found out what machine he wanted to find out about, didn't you and he have some conversation about it?

Ans. No; nothing particular.

Cross-int. 34. Then, he didn't ask you what you remembered about it, did he?

Ans. Yes; he asked me if I could remember.

Cross-int. 35. How long were you talking together after that about the machine?

Ans. Well, I don't think we was talking about the machine. Well, it might have been ten to twenty minutes.

Cross-int. 36. Have you had any conversation since that time relating to the subject with Mr. Moffitt or any person, except his counsel, before coming here to give your evidence?

Ans. Nothing particular.

Cross-int. 37. My question is, whether you have had any conversation with Mr. Moffit or any other person, relating to the subject, since that time?

Ans. Well, nothing more than the meeting a man who asked me if I knew anything about the machine.

Cross-int. 38. Who was the man?

300 Ans. Well, I've met one or two of my shopmates, that is, Mr. Bisbee. I've seen him since then. Well, I don't know of anybody particular.

Cross-int. 39. Please name the shopmates you have met since that time and spoken with of this matter.

Ans. Well, Daniel Matteson, that's the one. I have seen no other.

Cross-int. 40. When and where did you see and converse with Daniel Matteson on that subject?

Ans. Well, I had no talk with him about that; he merely asked me if I remembered the machine. I don't think I had two minutes' talk with him in the shop at Chelsea. I was down the other day and went through there.

Cross-int. 41. Who else was present at that conversation?

Ans. There wasn't anybody.

Cross-int. 42. Did you have the machine there?

Ans. No, sir.

Cross-int. 43. When, if ever, have you seen this machine (No. 3), or one substantially like it, since the time you say you saw it at Bisbee & Endicott's, before you came here to testify to-day?

Ans. I see one, it might have been the same one, at Mr. Moffitt's room some time this week.

Cross-int. 44. Who, if any one, was present with you at the time you saw the machine at Mr. Moffitt's room?

Ans. Well, I don't know the gentleman's name. It was a man that was to work for Mr. Moffit.

Cross-int. 45. Was he the only one there with you?

Ans. That's all there was there.

Cross-int. 46. Have you seen the machine, or one substantially like, at any time since then, or previous thereto, since you saw it at Bisbee & Endicott's, and before coming here to testify?

Ans. I have not; only what I see it in Mr. Moffitt's room.

Cross-int. 47. Did you see it in Mr. Moffitt's room at any other time than the time you mentioned?

Ans. No.

DAVID C. ALLYN.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Adjourned till Tuesday, Dec. 24, 10 a. m.

301 *Deposition of Daniel Matteson.*

BOSTON, *Dec.* 24, 1878.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Int. 1. State your name, age, residence, and occupation.

Ans. Daniel Matteson; 50; Chelsea; machinist.

Int. 2. How long have you been a machinist?

Ans. About thirty-three years.

Int. 3. Where do you now practice your calling, and in what capacity?

Ans. At Bisbee & Endicott's, Chelsea; foreman of the shop.

Int. 4. How long have you been foreman of the shop?

Ans. A little over seven years.

Int. 5. Please look at Exhibit Machine No. 3, and say if you ever saw that, or a machine substantially like it, in Bisbee & Endicott's shop; and, if yea, when.

Ans. Yes, sir, I've seen it there; I think the first time I saw it was about '69.

Int. 6. Was it this identical machine which you saw then, or one substantially like it?

Ans. Part of it was the same.

Int. 7. What part or parts are the same, and what are new?

Ans. The block is the same, the angle-iron is the same, the bevel-

gear, large one, the small one on the end of the crank-shaft—these are the same as in the machine I saw. This pressure-bar and lever are new, and the two rolls. I can't say whether those two upper gears are new or old. I can't say whether that's the same crank or not, but there was one very much like it.

Int. 8. Whereabouts in the shop was the machine when you first saw it?

Ans. Upstairs, in the pattern-shop.

Int. 9. How was it mounted, if at all?

Ans. As near as I can remember, it was bolted on to a horse, one very much like that.

Int. 10. How long did it remain there in that shape?

Ans. I should think somewhere from two to three years.

302 Int. 11. What was then done to it, if you know?

Ans. I took it downstairs.

Int. 12. What did you do with it, if anything.

Ans. I took it apart.

Int. 13. Why?

Ans. I wanted to use part of it for another purpose.

Int. 14. What part of it?

Ans. The block, angle-iron, and two lower bevel-gears.

Int. 15. For what purpose did you wish to use these parts?

Ans. I wanted to put them on to a lathe for a cross-feed.

Int. 16. Did you put them on a lathe, and, if so, how long did you so use them?

Ans. It wa'n't on a real lathe; we called it a lathe; it was on a machine for turning a large wheel. I guess it was there a year and a half or two years.

Int. 17. Did you adjust other pieces to the parts of this machine used on the lathe to make it serve the purpose of a cross-feed?

Ans. Yes, sir.

Int. 18. When you took this machine apart, did you or not ask Mr. Moffitt's consent so to do?

(Objected to as immaterial and incompetent.)

Ans. I asked him before I took it apart at all. Got his consent.

Int. 19. What did you do with the parts of the machine not used on the lathe?

Ans. By his request I saved 'em. He wanted 'em saved.

Int. 20. Where did you put them?

Ans. Put them in a keg, and carried the keg upstairs into another part of the shop.

Int. 21. Whether or not the keg was placed in a room; and, if so, what room?

Ans. In a room, we call it the back part of the shop, in a room upstairs where we keep machinery and stuff that isn't in use.

Noon recess.

Postponed to take the deposition of R. H. Peverly.

BOSTON, *Dec.* 26, 1878.

Int. 22. Please look at Exhibit Machine No. 3, and observe
303 particularly the lever and the pressure-bar bolted thereon, pointing between the rolls, and say whether or not the machine you saw at Bisbee & Endicott's, and have before mentioned, had such a pressure-bar on it when you took it to pieces, as you have stated.

Ans. I think it had that just the same, as near as I can see (witness

puts his hand on the pressure-bar), but as near as I can recollect the handle was round.

Int. 23. Please observe the rolls, and state whether or not you observed any collar or projection on the base of either of the rolls in the machine at Bisbee & Endicott's.

Ans. No collar at all.

Int. 24. Whether or not anything was said to you by Mr. Moffitt about preserving the parts when you took the machine to pieces?

(Objected to as immaterial.)

Ans. Yes, sir; he wanted them all saved.

Int. 25. Do you remember a sale at auction of sundry articles of machinery, etc., which took place at Bisbee & Endicott's?

Ans. Yes, sir.

Int. 26. Was Exhibit Machine No. 3 sold at that auction?

Ans. No, sir.

Int. 27. Why not, if you know?

Ans. By Mr. Moffitt's request it wasn't put in the lot.

Int. 28. Did you, or did you not, purchase the articles sold at the auction; and, if yea, for whom?

Ans. Yes, sir, I did; for Bisbee & Endicott.

Int. 29. Whether or not in 1875 you suggested to Mr. Moffitt that he should examine the place where the pieces of the machine you had taken to pieces were stored to see if all were in their place?

(Objected to as immaterial and incompetent.)

Ans. Yes, sir.

Int. 30. State why you made that suggestion, and what you said, if you remember.

(Same objection.)

Ans. About that time there was some patterns being carried off that belonged to Mr. Moffitt, and it occurred to me whether or no his machine hadn't been carried off, as I'd seen Mr. Wise go upstairs
304 where it was. When Mr. Moffitt came along I asked him if he'd been upstairs lately. He says, "No; I haven't." I says, "You'd better go up and see if all is right." Mr. Moffitt went up and came back. He says, "The keg ain't there." I told him I could'nt tell where it was; and he said he must have that machine fixed right up, taken off of the lathe, as we called it, and we let him have what we had left of it.

(Answer objected to as not responsive to the interrogatory, and as giving conversations between the witness and the complainant, and as immaterial and incompetent.)

Int. 31. When did Wise leave the employment of Bisbee & Endicott, and where was he at work at the time you made the said suggestion to Mr. Moffitt, and when Mr. Moffitt's patterns were taken away?

(Objected to as immaterial and incompetent.)

Ans. I think he left somewhere in '72; it might have been '73. He was at work, as we called it, out to Spinney's. He was at Mr. Spinney's then (to last branch of question).

Int. 32. Had Mr. Wise any legitimate business in the room where the keg of pieces was stored at the time it, the keg, disappeared?

(Same objection.)

Ans. He'd no business there and no right there.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 33 (de bene). When did that keg of pieces disappear?

Ans. Well, I think it was in '73 or '74; I can't tell exactly.

Cross-int. 34 (de bene). Can you swear it was not in '72?

Ans. I don't think it was in '72, by any means.

Cross-int. 35 (de bene). Can you swear positively it was not in '72?

Ans. As near as I can recollect, it wa'n't in '72.

Cross-int. 36 (de bene). Will you swear positively it was not in '72?

Ans. As near as my memory serves me, I can.

Cross-int. 37 (de bene). Did you know when the keg was taken away, at the time of it?

Ans. No, sir.

Cross-int. 38 (de bene). How long after it was taken away did you learn that it had been taken?

305 Ans. I can't tell, sir, how long.

Cross-int 39 (de bene). How recently had you seen it before you learned that it had been taken away?

Ans. Well, perhaps five or six times a week some weeks; perhaps not for a month sometime. Perhaps a month or six weeks; something like that.

Cross-int. 40 (de bene). Do you remember anything about it; how long it was before you found that it was taken away that you saw it?

Ans. As near as I can remember it was somewheres about a month.

Cross-int. 41 (de bene). Have you any data by which you can say on oath that it was a month rather than two months?

Ans. None particular.

Cross-int 42 (de bene). Where was this keg kept before it was taken away; in what loft or part of the shop; and what business was done in the same room?

Ans. It was kept in the back part of the shop, as we called it, upstairs. The room we used as a store-room; there was no business done, merely a store-room, that's all.

Cross-int 43 (de bene). Was it a room where old machines and parts of machines and scraps were stored away?

Ans. Where we kept parts of some machines, steel and iron, nuts and bolts, and such like.

Cross-int. 44 (de bene). Were there any other kegs containing scraps or other materials kept there in that room at that time?

Ans. Kegs of bolts, kegs of nuts.

Cross-int. 45 (de bene). This room where this keg was kept was at all times accessible to the workmen generally at Bisbee & Endicott's, was it not?

Ans. All that belonged to the shop, although we kept the door bolted most of the time.

Cross-int. 46. Who directed you to use some parts of that machine upon the lathe, as you have stated?

Ans. No, one; it was a notion of my own.

Cross-int. 47. Didn't you get leave of Messrs. Bisbee & Endicott or of Mr. Moffitt to use those parts upon a lathe?

Ans. I never said anything to Mr. Bisbee or Mr. Endicott about it, but I got leave to use the machine from Mr. Moffitt.

306 Cross-int. 48. Who sold such articles as were sold at the auction referred to?

Ans. I don't know the officer or auctioneer; he was a stranger to me.

Cross-int. 49. Did he give you any schedule of the articles you purchased?

Ans. No, sir; any more than they were piled on the floor and this machine.

Cross-int. 50. Those articles sold had been attached against Mr. Moffitt, had they?

Ans. Well, I couldn't tell about that, sir.

Cross-int. 51. Do you not know that they were sold under a writ or execution?

Ans. All I know about is, the officer came in with Mr. Endicott and read his documents, and by Mr. Endicott's request they were started in auction sale, and I bid on 'em.

Cross-int. 52. Was that officer a constable or sheriff, or which, if you know?

Ans. I don't know whether he was constable or sheriff, or whether he was either.

Cross-int. 53. Do you know when it was that Mr. Wise left the employ of Bisbee & Endicott?

Ans. If I remember right it was about in '72.

Cross-int. 54. Do you know whether it was in '72 or '73?

Ans. No, sir; I don't.

Cross-int. 55. When did you commence in the employment of Bisbee & Endicott?

Ans. In the spring of '68.

Cross-int. 56. When did you commence as their foreman?

Ans. In the spring of '71.

Cross-int. 57. When did you first see the machine referred to by you?

Ans. Well, it was soon after I went there.

Cross-int. 58. Where was it at that time?

Ans. Upstairs, in the pattern-shop.

Cross-int. 59. Was it set up in condition to use, or how otherwise?

307 Ans. It was set on a horse, something like the one it's on now.

Cross-int. 60. When did you take it apart?

Ans. As near as I can remember, it was in the last part of '73 or '74, somewheres thereabout.

Cross-int. 61. Where had it been kept from the time you first saw it until you took it apart?

Ans. Upstairs, in the pattern-shop.

Cross-int. 62. State, if you remember, whether or not the machine, before you took it apart, had the same shaft upon it, to which the crank is attached, as is shown in Exhibit Machine No. 3.

Ans. No, sir; I made a new shaft.

Cross-int. 63. Was the old shaft of the same substantial dimensions as the one now upon said exhibit?

Ans. I think the original shaft was just the same as that is, but the one I used was a longer shaft.

Cross-int. 64. Did you make the arm, or lever, and the piece bolted on it pointing between the rolls, now upon Exhibit Machine No. 3? If you did not, who did, if you know?

Ans. No, sir; I didn't. I can't tell who did. One of Mr. Moffitt's men.

Cross-int. 65. When was it done, if you know?

Ans. I should guess it was about two years and a half ago. It might have been three years. I couldn't tell about that, particular.

Cross-int. 66. Was it done at Bisbee & Endicott's?

Ans. I think it was. I saw some men at work on it; Mr. Moffitt's men.

Cross-int. 67. Can you not give the name of any one you saw at work on it?

Ans. Mr. Elijah Endicott. Mr. Emery was another one.

Cross-int. 68. Were not Mr. Elijah Endicott and Mr. Emery men in the employ of Bisbee & Endicott?

Ans. Yes, sir; they was at that time, but working at Mr. Moffitt's order.

Cross-int. 69. Who helped you, if any one, to take the machine apart, as you have stated?

Ans. I don't remember any one helping me; I done it about all myself.

308 Cross-int. 70. Were the rolls upon the machine when you took it apart?

Ans. Yes, sir.

Cross-int. 71. Had you ever examined the machine previously to that time?

Ans. Not in particular, only to see if it would answer what I wanted of it then.

Cross-int. 72. Had you ever seen the machine used before you took it apart?

Ans. No, sir.

Cross-int. 73. Were those original rolls steel or iron?

Ans. Well, as I didn't make 'em I couldn't tell about that.

Cross-int. 74. When you took the machine apart, did you notice with particular care the parts you were not going to use yourself?

Ans. No more than to see that I could put it together again just as I had taken it apart.

Cross-int. 75. Did you at that time notice whether there was or not any flange or shoulder near the base of the concave roll?

Ans. Nothing of that kind on it.

Cross-int. 76. Did Mr. Moffitt have a good deal of work done there at Bisbee & Endicott's from the time you went there up to 1874 or '5?

Ans. He had considerable; three or four men he'd average right along; perhaps more.

Cross-int. 77. Did you ever examine the machine with much care before you took it apart?

Ans. No, sir.

Cross-int. 78. How long did you use parts of the machine upon the lathe?

Ans. Perhaps a year and a half or two years.

Cross-int. 79. When was it taken off from the lathe?

Ans. Perhaps two years and a half or three years ago.

Cross-int. 80. Do you know who made the angle-iron to which the block is attached?

Ans. No, sir.

Cross-int. 81. Who made the bevel-gears, if you know?

Ans. No, sir.

309 Cross-int. 82. How many different days have you been here in attendance while other witnesses were giving their testimony?

Ans. Three, I believe.

Cross-int. 83. Have you had some conversation with Mr. Moffitt as to the subject-matter of your testimony in this case?

Ans. Yes, sir.

Cross-int. 84. At various times, have you not?

Ans. Yes, sir.

Cross-int. 85. Whether or not you have testified in any other case in behalf of Mr. Moffitt; and, if so, in what case, or cases?

Ans. In no case whatever.

DANIEL MATTESON.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Noon recess.

Deposition of Robert H. Peverly.

BOSTON, *Dec.* 24, 1878.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Int. 1. State your name, age, residence, and occupation.

Ans. Robert H. Peverly; 63; Everett, Mass.; brass-moulder.

Int. 2. Did you, or not, ever see, at Bisbee & Endicott's, in Chelsea, a machine for shaping heel-casings; if yea, when?

Ans. Yes, sir. Well, it was a great while ago, sir. I couldn't tell. I should think it was ten years or more. It looks to me a good deal more.

Int. 3. Who showed it you, and who was present at the time?

Ans. There was Mr. Moffitt, and, I think, Mr. Cary. I'm not positive, but I think Mr. Cary was there at the time; the man that worked at Bisbee & Endicott's.

Int. 4. Whereabouts was it in the shop?

Ans. In the east corner, where Mr. Cary's bench was.

310 Int. 5. Please look upon Exhibit Machine No. 3, and say whether that is the one, or substantially like the one, you saw?

Ans. I couldn't say, sir. I was in the shop and called to see this heel turned through by Mr. Moffitt, and I'd no interest in the machine, only happened to be in one afternoon there, as I'm in two or three times a day.

Int. 6. Please describe what you saw.

Ans. Mr. Moffitt called me to the machine and took a piece of sheet-iron, run it through two rolls, while Mr. Cary turned the crank. I think it was Mr. Cary. I'm pretty positive. Stood in this way (having his left hand on the lever) and put a piece of sheet-iron between the rolls here (indicating the sides of the rolls opposite the pressure-bar), and I think he put his hand on a lever like this to guide the iron after it got through.

Int. 7. How many times was the iron run through the rolls?

Ans. I think only once, sir, to form the round part of it and concave.

Int. 8. Please look upon the piece of sheet-iron now shown you (marked Exhibit Peverly, C. F. S., sp'l ex'r), and state whether it is substantially like the piece you saw Mr. Moffitt pass between the rolls.

Ans. Well, sir, I could tell better when I saw it run through the machine. I didn't examine the iron before it went through. I could tell if I saw it run through that machine whether it produced the result that I examined.

Int. 9. Will you take the crank and operate it as you saw Mr. Cary, while Mr. Moffitt guides the iron through the rollers, and then compare the operation with the one you saw in Bisbee & Endicott's shop?

Ans. Well, that's turned through the wrong side and he didn't make half the operations (after a piece had been run through). (After running through another piece, witness says:) That is smaller. I think shorter here (pointing to the back of the heel), but the operation was the same and the same shape. (Piece now put in evidence and marked Exhibit Peverly 2, C. F. S., sp'l ex'r.)

Int. 10. In the operation just performed, in which Peverly No. 2 was made, please describe, so that the examiner can take it down, what Mr. Moffitt did.

311 Ans. He put a piece of sheet-iron, like Exhibit Peverly No. 1, between two rolls; put his left hand on a lever; I turned the crank and it came out Peverly No. 2.

Int. 11. Whether or not this last operation you have described was substantially like the operation you saw in Bisbee & Endicott's shop; and whether or not the result was substantially the same?

Ans. It was so, with only the difference in the width of the heel.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 12. Did you ever see the machine more than once in Bisbee & Endicott's shop?

Ans. I think likely I've seen it a great many times; never to examine it.

Cross-int. 13. Did you ever see Mr. Moffitt turn any heel-casings on it more than once in Bisbee and Endicott's shop?

Ans. I can't say that I ever did, sir. I've seen a good many on the bench.

Cross-int. 14. Did you work for Bisbee & Endicott at any time; if so, when?

Ans. Thirty-three years ago, last, on his premises.

Cross-int. 15. Were you at work there when you saw the machine operated as you have stated, by Mr. Moffitt?

Ans. I haven't worked for him for thirty-three years. I'm a brass-founder and make brass castings, and carry them into Bisbee & Endicott's shop. I work for myself.

Cross-int. 16. Do you particularly remember having seen the machine there more than once?

Ans. No, sir, I can't say that I've seen it there any more than I've seen the rest of the tools on the bench; at work on them.

Cross-int. 17. Do you remember ever having seen it there so as to testify to it, except the time you have described?

Ans. No, sir.

Cross-int. 18. Have you any data by which you fix the time that you have testified you saw the machine there?

Ans. No, sir. Only from when the machine was first put in operation.

312 Cross-int. 19. Do you know anything about when the machine was first put in operation, of your own personal knowledge?

Ans. I have no dates. It was ten years or more.

Cross-int. 20. Do you know whether or not the machine had been in use before you saw it; of your own personal knowledge, that you can swear to?

Ans. The first I see the machine was when Mr. Moffitt called my attention to it as being perfected.

Cross-int. 21. That was all you know about the machine being then new, or otherwise, was it?

Ans. I have an impression that there wasn't a dozen pairs run through it before I saw it. I don't know, but that's my impression.

Cross-int. 22. Do you know whether there had been a dozen pairs only run through it, or five hundred, of your own knowledge, that you can now make oath to?

Ans. I couldn't tell, sir, nor no other man, unless they locked the machine up.

Cross-int. 23. Do you remember how the machine was held or attached, when the blank was run through, as stated by you, at Bisbee & Endicott's?

Ans. No, sir, I couldn't tell.

Cross-int. 24. Do you not remember of seeing it held at some time there, in a vise?

Ans. I can't say I ever did, sir.

Cross-int. 25. Do you mean to be understood to testify positively that at the time you saw the machine spoken of, at Bisbee & Endicott's, you now remember that there was a handle or lever upon it as is shown in Exhibit Machine No. 3?

Ans. I know there was two rolls, a lever and a crank. The rest I don't know anything about.

Cross-int. 26. Do you now positively remember that there was a lever on it of any kind?

Ans. As much so as I can remember anything ten years ago or more.

Cross-int. 27. How do you fix the time as being ten years ago or more?

313 Ans. I knew at the time when I was in there, and Mr. Moffitt called my attention to the machine; at that time I was very busy; had been.

Cross-int. 28. Then, as you were very busy, you didn't give much attention to it, did you?

Ans. No, sir. I want to make an explanation. After I saw them made I saw Mr. Moffitt and Mr. Endicott wearing iron heels, made of sheet-iron, with rubber in them to keep from slipping. This fixed my attention.

Cross-int. 29. Have you now stated all the reasons you have for fixing the time of seeing the machine at Bisbee & Endicott's at ten years or more ago?

Ans. I think I have given all the reason I have had of all knowledge within ten years, but I couldn't pick out dates. I think I could find dates at home.

Cross-int. 30. Do you remember seeing more than one heel-casing formed in that machine?

Ans. I see one that Mr. Moffitt put through, and some similar to it on the bench, at a different time, within probably a week's time.

Cross-int. 31. Do you mean to state positively that Mr. Cary was the person who assisted in putting that one through the machine, as stated?

Ans. That is my impression, and I think I could take my oath of it as well as I could of anything that was ten years ago.

Cross-int. 32. Can you now state how the bar or handle which you think was connected with that machine was attached; whether directly to the shafts of the rollers or to the bushings?

Ans. No, sir; if I did I should identify the machine.

Cross-int. 33. Can you now state whether there was a piece bolted or screwed on to the bar of that machine you saw at Bisbee & Endicott's,

similar to the one you now see attached to the bar by bolts or screws on Exhibit Machine No. 3?

Ans. No, sir. I can't say whether there was a piece bolted on or screwed on, or forged on, or a piece on at all, for I did not examine the machine.

Cross-int. 34. Do you mean to state positively that the blank was run through the machine but once in making the cases?

314 Ans. Yes, sir; I mean to state positively; the same as this one (Exhibit Peverly 2) went through but once.

Cross-int. 35. When did you first see the Exhibit Machine No. 3, after seeing the one you have described at Bisbee & Endicott's?

Ans. I see it in this room, sir, 60 Devonshire street, last week; I think Friday or Saturday.

Cross-int. 36. Who beside counsel were present at the time?

Ans. Mr. Moffitt, Mr. Daniel Matteson, and some two or three others; I couldn't tell you who they were, sir.

Cross-int. 37. At whose request did you come here, at 60 Devonshire st., at the time you saw the machine?

Ans. Mr. Moffitt wanted to see what I knew about it, and I wouldn't give any information to him what I did know.

Cross-int. 38. You talked the matter over in relation to the machine, with Mr. Moffitt, did you?

Ans. Never talked ten minutes with him about it in any way.

R. H. PEVERLY.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Adjourned to Thursday, Dec. 26, 10 a. m.

Deposition of Henry Hughes.

BOSTON, *Dec.* 26, 1878.

Direct examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Int. 1. State your name, age, residence, and occupation.

Ans. Henry Hughes; 40; Chelsea; counter-maker for boots and shoes.

Int. 2. How long have you followed this counter-making?

Ans. About six years.

Int. 3. Where do you now work?

Ans. At Bisbee & Endicott's.

Int. 14. Do you know Andrew M. Cary; and how long have you known him?

315 Ans. Yes, sir. I've known him between eight and nine years.

Int. 5. State whether or not you have ever heard him speak of the evidence given in a suit between Moffitt & Spinney and Melcher, in reference to the truth or falsehood of said evidence; if you have, state what he said.

(Objected to as immaterial and incompetent.)

Ans. Yes, sir; I have heard him say that he knew that there was an untruth told.

Int. 6. Now state what he said, as nearly as you can, and especially say whether the untruth was in favor of or against Moffitt.

(Same objection.)

Ans. We was speaking about the decision after the Moffitt and Spinney case. I asked him what he thought about it, now as the case was all settled. I asked him if he didn't know that some of them told a lie there. He said yes, he knew they had. Against Mr. Moffitt.

(Answer objected to as not responsive, in part, and as stating conversations between third parties, and as irrelevant and incompetent.)

Int. 7. Did he or not say anything about giving evidence himself in favor of Moffitt; if yea, what did he say?

(Same objection, as to irrelevancy and incompetency.)

Ans. He said he could have given evidence in favor of Mr. Moffitt, but he wouldn't do so, but if it was to go against him he'd willingly go, or words to that effect.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 8 (de bene). When was this conversation with Mr. Cary which you have spoken about?

Ans. In the fall of last year.

Cross-int. 9 (de bene). What time in the fall of 1877?

Ans. About October.

Cross-int. 10 (de bene). The first or last part of October?

Ans. As near as I can remember, it was the latter part of October.

Cross-int. 11 (de bene). Where was it?

316 Ans. As we was walking home from Bisbee's shop.

Cross-int. 12 (de bene). Who else was present, if any one?

Ans. No one.

Cross-int. 13 (de bene). What time of day was it?

Ans. When we quit work in the evening.

Cross-int. 14 (de bene). Was Mr. Cary at that time at work for Bisbee & Endicott?

Ans. I can't say.

Cross-int. 15 (de bene). Were you then at work for Bisbee & Endicott?

Ans. Yes, sir.

Cross-int. 16 (de bene). Did Mr. Cary say whether or not he testified in the case of Moffitt vs. Spinney?

Ans. No, sir.

Cross-int. 17 (de bene). Do you mean to be understood, in your answer to the 7th int., that you have given the exact words Mr. Cary used at the time referred to?

Ans. As near as I can remember, those was the words.

Cross-int. 18 (de bene). You cannot swear those were the exact words, can you?

Ans. No; I didn't take any memorandum of 'em.

Cross-int. 19 (de bene esse). You cannot say whether he said he did not wish to do so, or he wouldn't do so, can you?

Ans. That he wouldn't do so.

Cross-int. 20 (de bene). Do you mean now to swear positively that he used the word would'nt?

Ans. He used the word wouldn't, or words to that effect.

Cross-int. 21 (de bene). What other words to that effect do you think he might have used instead?

Ans. As near as I can remember, those were the words.

Cross-int. 22 (de bene). When was it first, after that conversation, called to your attention?

Ans. I spoke of it several times to Mr. Moffitt; I should say I spoke of it the same day to the man I was working with.

Cross-int. 23 (de bene). When next, after that, and to whom?

Ans. Well, I've spoken to several about it, but I don't know as I can recollect the names; general conversation at the time.

317 Cross-int. 24 (de bene). Who is the first you remember speaking to about it?

Ans. It would be the man I'm working with.

Cross-int. 25 (de bene). When did you first speak to Mr. Moffitt about it?

Ans. If my memory serves me right, I believe I spoke to him about the same week.

Cross-int. 26 (de bene). And you have talked it over with him several times since, have you?

Ans. I've spoken about it since, to him.

Cross-int. 27 (de bene). Are you the Mr. Hughes who has aided Mr. Moffitt, more or less, in seeing his witnesses and in getting together the evidence in this case?

Ans. I've been sent down to Blake's to get Mr. Collett here, a witness on this case. Yes.

Cross-int. 28 (de bene). Have you not been here, more or less, nearly every day while the evidence was being taken?

Ans. Yes, sir.

Cross-int. 29 (de bene). You are the same Mr. Hughes who helped Mr. Moffitt making experiments in making counters to be used in this case, are you not?

Ans. I made some of the counters that was produced as exhibits.

HENRY HUGHES.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Adjourned to Saturday, Dec. 28, 1878.

Deposition of James Wolstenholme.

BOSTON, *Dec.* 30, 1878.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. James Wolstenholme; 48 years; 189 Central avenue, Chelsea; iron-moulder.

318 Int. 2. How long have you been engaged in your present occupation, and where have you been so engaged for the last twelve years?

Ans. At Bisbee & Endicott's, in Chelsea, for the last twenty-five years.

Int. 3. Please look at Exhibit Machine No. 3, now shown you, and state whether or not you ever saw that machine, or one substantially like it, before; and, if yea, when and where.

Ans. I have not seen the machine until within two or three weeks ago, but that pattern (witness touches the angle-iron) and that pattern (witness touches the horizontal block in which the rolls are journaled) have been around in Mr. Moffitt's room for nine or ten years.

Int. 4. What room do you refer to as Mr. Moffitt's room?

Ans. A room where Mr. Moffitt's patterns are generally kept.

Int. 5. Where was that room? In Bisbee & Endicott's yard?

Ans. Yes, sir. The firm bought a block of four houses, about twelve years ago, and turned them into store-rooms for patterns, and Moffitt's rooms were in the further house, having the largest room downstairs.

Int. 6. It was in that room you saw the patterns of the parts of this machine No. 3, was it?

Ans. Yes, sir.

Int. 7. When did you last see those patterns?

Ans. I should think that the last time I saw them was three or four years ago.

Int. 8. Whether or not other patterns belonging to Mr. Moffitt disappeared about the time you last saw them?

(Counsel for defendant objects to this interrogatory as being immaterial and incompetent.)

Ans. Three years ago, between three and four; I am not certain of the dates; Moffitt's room was cleaned out of every pattern in it, with the exception of the punch standing in one corner.

Int. 9. Did you know before or when they were taken?

(Counsel for defendant objects to this interrogatory as being immaterial and incompetent.)

Ans. No, sir.

Int. 10. Who, if any one, had charge of the patterns in Bisbee & Endicott's establishment at that time?

319 (Same objection.)

Ans. I have had charge of the patterns for the last fifteen or sixteen years at Bisbee & Endicott's.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 11. Did you ever use the patterns for the angle-iron and block referred to?

Ans. No further than carrying them out of the foundry and putting them in their place where Moffitt's patterns were kept.

Cross-int. 12. Did you ever see them used?

Ans. No, sir.

Cross-int. 13. Have you any data or other memoranda by which you can fix the time when you first saw those patterns for the angle-iron and block?

Ans. No, sir; we don't keep any memorandum.

Cross-int. 14. How do you fix the time you say you have seen those patterns about to be nine or ten years, rather than seven or eight years?

Ans. Well, I fix it by the time Mr. Moffitt has been working around there.

Cross-int. 15. Mr. Moffitt has been working around there within the last three or four years, or five, has he not?

Ans. Mr. Moffitt has been working around there for the last fifteen years, I should judge. He has within the last three or four or five years.

Cross-int. 16. Did you ever have occasion to examine those patterns carefully and particularly?

Ans. No more than the general run of patterns.

Cross-int. 17. Can you fix any time when you particularly observed those patterns?

Ans. No, sir; we don't keep a memorandum.

Cross-int. 18. Can you state where in that store-room you first saw those patterns; I refer to the particular ones that we are talking about?

Ans. I first saw the patterns nine or ten years ago, in the foundry, in the first place.

320 Cross-int. 19. How do you fix the time to be nine or ten years ago?

Ans. That is to the best of my recollection; we had made some castings for some rubber-work for Mr. Moffitt, and he had given up that and commenced experimenting.

Cross-int. 20. Then when you first saw those patterns was after Mr. Moffitt had given up that rubber-work and commenced experimenting, wasn't it?

Ans. Yes, sir.

Cross-int. 21. What was that rubber-work which he had given up before commencing his experimenting?

Ans. He had got out two machines for making solid rubber heels, I think. I believe the machines were for making solid rubber heels; I never saw them operate.

Cross-int. 22. Have you stated now all the reasons you have for fixing the time to have been nine or ten years ago when you first saw those patterns?

Ans. I should say about ten years ago that he commenced manufacturing in a building that we have just off of the foundry, and those patterns were got out prior to that, I should say. I can't give any better reasons than that.

Cross-int. 23. Can you give any other reasons than you have for so thinking; that is, for thinking that it was nine or ten years ago?

Ans. If my memory serves me right, that is the best reason I can give.

Cross-int. 24. Will you state just what you had to do with Mr. Moffitt's patterns?

Ans. I had charge of all the patterns coming into the shop and coming out of the sand, and carrying them into their proper places kept for them.

Cross-int. 25. Can you state positively, on oath, that you first saw the patterns for the angle-iron and block more than seven or eight years ago?

Ans. I don't keep any memorandum; but, if my memory serves me right, I should say that it was nine or ten years ago.

Cross-int. 26. Can you swear positively that it was more than seven or eight years ago?

321 Ans. Yes, sir.

Cross-int. 27. By what data do you fix it to be more than seven years ago, so as to swear positively?

Ans. I fix it by the time that he commenced manufacturing in that building off the foundry.

Cross-int. 28. Can you fix the time when he commenced manufacturing in that building off the foundry, so as to make oath to it?

Ans. Only to the best of my recollection.

Cross-int. 29 (de bene). Were the locks broken to the store-room from whence those patterns were taken, as you have stated?

Ans. We have no locks to the doors; they merely latched when they shut.

Cross-int. 30 (de bene). Was that room where Mr. Moffitt's patterns were kept occupied exclusively for his patterns?

Ans. Yes, sir.

Cross-int. 31 (de bene). He had patterns there for various kinds of his machinery, had he not?

Ans. Yes, sir.

Cross-int. 32. Upon what machines did Mr. Moffitt commence experimenting, after getting through the rubber-work, as you have stated?

Ans. I can't say.

Cross-int. 33. Please state some of the different kinds of machines Mr. Moffitt experimented on, after that rubber-work.

Ans. Not being in the machine-shop I can't say, but most of his machines have been connected with heel-stiffeners.

Cross-int. 34. Please describe any other of the patterns or castings which Mr. Moffitt had besides that for the angle-iron and the block between seven and ten years ago.

Ans. He had several machines built for cutting cloth to mix in with the rubber for making stiffenings.

Cross-int. 35. Will you describe any other castings or patterns used by Mr. Moffitt from seven to ten years ago?

Ans. No, I can't. He was all the time experimenting.

Cross-int. 36. When was your attention first called to the subject of the patterns for the angle-iron and block after they were missing from that store-room, as stated by you?

322 Ans. I was asked three weeks ago where the patterns were, or had I seen those patterns. I said yes, that I had not seen them these three or four years, or since the room was cleaned out.

Cross-int. 37. With whom did you have this conversation?

Ans. Mr. Moffitt came to me and asked where the patterns were. I said I hadn't seen them since the room was cleaned out.

Cross-int. 38. How long did that conversation between you and Mr. Moffitt last?

Ans. Not over five minutes.

JAMES WOLSTENHOLME.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of George P. Woods.

BOSTON, *Dec.* 30, 1878.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. George P. Woods; 51 years; Revere, Mass.; machinist.

Int. 2. How long have you followed that occupation, and where do you now work?

Ans. I have followed that occupation about 30 years, and I have been to work for Bisbee & Endicott for the last 25 years, with some exceptions, vacations, and so on.

Int. 3. Please look upon Exhibit Machine No. 3, now shown you, and state if you ever saw that machine before, or one substantially like it; and, if yea, when and where?

Ans. I have seen that machine, or one substantially like it, at Bisbee & Endicott's shop, I should say ten or twelve years ago.

Int. 4. Please state how the machine stood; that is, whether mounted on a horse as it now is or lying round on the work-bench or floor, or how otherwise.

Ans. Well, it was on the horses, but at the same time it might have been on the floor part of the time. When it was in use it probably was on the horses.

323 Cross-examination by THOMAS L. WAKEFIELD, of counsel for defendants:

Cross-int. 5. How many times do you remember seeing the machine spoken of?

Ans. I can't answer that question.

Cross-int. 6. Do you remember seeing it more than once?

Ans. I do.

Cross-int. 7. Where was it when you first saw it?

Ans. At Bisbee & Endicott's machine-shop.

Cross-int. 8. Where in the shop?

Ans. I have seen it on a horse mounted as it is now, sometimes in one corner and sometimes in another. I can't tell exactly where in the shop.

Cross-int. 9. Can you state any one particular place in the shop where you saw it?

Ans. Yes; I have seen it in a particular place.

Cross-int. 10. Where was that particular place?

Ans. It was near the middle of the shop.

Cross-int. 11. Was any one else present with you at that time when you saw it at that place?

Ans. There were other hands in the shop at the time.

Cross-int. 12. Were you then examining the machine?

Ans. I was not.

Cross-int. 13. Did you ever examine the machine particularly?

Ans. I never did particularly.

Cross-int. 14. Did you do any work upon it, either in making or using it?

Ans. I did not.

Cross-int. 15. When was the latest time that you ever saw the machine at Bisbee & Endicott's?

Ans. I don't think that I have seen that machine within nine or ten years.

Cross-int. 16. What examination did you make of it when you saw it in Bisbee & Endicott's shop, if any?

Ans. I made no examination.

324 Cross-int. 17. Did you notice when you saw it there whether or not there were any bushings in the holes in which the rolls are journaled?

Ans. I did not notice the bushings.

Cross-int. 18. Did you notice at that time whether the concave roll had a shoulder or collar on it near the base?

Ans. I did not.

Cross-int. 19. Do you know the fact that the rolls now on the machine Exhibit No. 3 are not the same that were originally upon it when constructed at Bisbee & Endicott's?

Ans. I could not swear that those were the ones constructed there, but at the same time they may be substantially like them.

Cross-int. 20. Did you notice when you saw the machine at Bisbee & Endicott's whether or not the convex roll had a shoulder or collar on it near its base, so as now to make oath to it?

Ans. I couldn't tell whether it did or not.

Cross-int. 21. Can you now state positively whether or not that machine had only two beveled gears, instead of four as shown on this exhibit?

Ans. It had four beveled gears as it is now.

Cross-int. 22. Do you mean to state that you now remember that

there were four beveled gears so that you can make oath to it, or that you judge there were four from the construction of this exhibit before you?

Ans. There were four beveled gears.

Cross-int. 23. Will you please hear the last question reread to you, and answer that question?

Ans. I do remember that there were four beveled gears.

Cross-int. 24. Do you mean to be understood that if you had not seen this exhibit or the machine that you saw at Bisbee & Endicott's within ten or twelve years you would now swear that you remember that machine had four beveled gears upon it?

Ans. I don't hardly understand the question.

(The magistrate explains the question.)

Ans. continued. I could not.

Noon recess.

Cross-int. 25. In which of Bisbee & Endicott's shops was it that you saw the machine spoken of about the middle of the room?

325 Ans. In the machine-shop.

Cross-int. 26. Did you know of any parts of that machine being used on a lathe as a cross-feed?

Ans. I did.

Cross-int. 27. What parts?

Ans. Well, the gears were used and the angle-iron. The two lower bevel-gears.

Cross-int. 28. During what time, and when, were they so used?

Ans. It was used for a cross-feed any time we wanted to use the feed. I didn't work the lathe at the time; my work was the planer. I should think it was five or six years ago, as near as I can remember.

Cross-int. 29. Do you not remember the time when the parts of said Exhibit Machine No. 3 were used on the lathe as a cross-feed as accurately as you do the time when you first saw the machine at Bisbee & Endicott's?

Ans. Yes; I think I do.

Cross-int. 30. Have you any memorandum, or data of any kind, by which you can fix any time at which you saw that machine at Bisbee & Endicott's?

Ans. I have not; only from memory.

Cross-int. 31. Can you swear positively that it was not more than five years ago that certain parts of that machine were used as a cross-feed on a lathe?

Ans. I cannot.

Cross-int. 32. Can you swear positively that it was more than seven years ago that you first saw the machine at Bisbee & Endicott's?

Ans. Yes; I can. It was more than that.

Cross-int. 33. By what data do you fix that time as more than seven years ago?

Ans. From memory only.

Cross-int. 34. Can you swear positively the first time you saw that machine at Bisbee & Endicott's was not as much as thirteen years ago?

A. I do not think it was thirteen years ago.

Cross-int. 35. I ask if you can swear positively it was not as much as thirteen years ago?

Ans. I cannot. Only I don't think it was as long ago as that.

326 Cross-int. 36. Can you swear positively it was more than eight years ago that you first saw it there?

Ans. I can.

Cross-int. 37. How do you fix that time so as to enable you to swear it was more than eight years ago?

Ans. From memory only.

Cross-int. 38. Where was the machine the first time you saw it—in what shop, or part of a shop, of Bisbee & Endicott's?

Ans. It was in the machine-shop.

Cross-int. 39. In what part of the machine-shop?

Ans. It was in the front part of the shop.

Cross-int. 40. On what floor?

Ans. On the lower floor.

Cross-int. 41. Did you ever see it in any loft of the shop, or of any building connected with the place of business of Bisbee & Endicott?

Ans. It was carried into the loft on the second floor, upstairs.

Cross-int. 42. When it was in this loft was it mounted upon a horse or form, or laying about on the floor, or how otherwise?

Ans. It was taken off the horse and laid on the floor.

Cross-int. 43. Was it then taken apart to any extent or not?

Ans. It was taken, part of it, for a cross-feed to the lathe.

Cross-int. 44. Had it been taken apart previously to the time of preparing it for use as a cross-feed?

Ans. It had been taken off the horse.

Cross-int. 45. Was the crank then on it while in the loft and before it was used for a cross-feed?

Ans. Yes; it was.

Cross-int. 46. When did you first see it in the loft—how long before it was used for a cross-feed?

Ans. It was in the loft, I should think, seven or eight years ago. I should think it was two years (to last branch of question).

Cross-int. 47. Did you know of the rolls being taken from the original machine for some other use?

Ans. I did not.

327 Cross-int. 48. Did you know of the machine being remodeled or refitted at Bisbee & Endicott's after it had been used for a cross-feed on a lathe?

Ans. I did not.

Cross-int. 49. Do you remember whether the lever or handle on that machine was flat, as shown in this exhibit, or square, or round?

Ans. I think it was flat.

Cross-int. 50. Should you remember that it was flat if you had not seen this exhibit or that machine at Bisbee & Endicott's within ten or twelve years so that you could make oath to it now?

Ans. No, I should not.

Cross-int. 51. You never examined that machine at Bisbee & Endicott's, did you, except to give it a casual glance as you passed by?

Ans. Well, I never examined it thoroughly.

Cross-int. 52. To what extent did you examine it, if you remember?

Ans. I give it a kind of ordinary examination; not a very thorough one, but something more than a usual glance as you pass by.

GEORGE P. WOODS.

Attest:

CHAS. F. SLEEPER,
Special Examiner.

Adjourned till Tuesday, Dec. 31, at 10 a. m.

Deposition of John R. Moffitt.

BOSTON, *Dec.* 31, 1878.

Direct examination by JAMES E. MAYNADIER, Esq., of counsel for complainant:

Int. 1. What is your name, and have you before testified in this case?

Ans. John R. Moffitt. I have.

Int. 2. Please point out carefully all the parts of Exhibit Machine No. 3 which are the identical parts used in the original machine
328 made in '67, and also the parts which are substitutes for those used in the original machine.

Ans. This angle-iron and head-block, what I call the frame of the machine, is the identical one used in 1867; also the two lower bevel-gears and the eccentric-boxes are the identical ones I had made and used in 1867. The two upper gears, the two formers, the lever and pressure-bar, the handle and shaft connected to the two lower bevel-gears, all of which I had replaced in 1875.

Int. 3. Some of the witnesses called by you have spoken of an auction sale at Bisbee & Endicott's. Please state what was sold at this auction sale, and briefly the occasion of the sale.

Ans. There was sold a large power-punch, with sundry other pieces, none of which included Exhibit Machine No. 3, as I had specially reserved it. This sale was made at my solicitation, for reasons that parties who were to have the articles named had failed to pay the bills on them, and that I desired to use what I could to remunerate me. It was suggested by counsel best to have those parts sold at auction, and it was done.

Int. 4. Where was this original machine kept before a portion of it was used for another purpose?

Ans. It was kept upstairs above the machine-shop, in a room known as a room where patterns were made and machinery not in use was also stored.

Int. 5. Please explain now why this machine was wanted for use on what has been called a lathe.

Ans. Messrs. Bisbee & Endicott had in their machine-shop what may be properly called a lathe-chuck, designed for turning large iron pulleys. About the latter part of '73, or perhaps the beginning of '74, they were arranging to turn a large pulley of about twelve feet diameter and over two foot face. They desired to arrange what we call a cross-feed for the purposes of turning the sides of this large pulley. Mr. Matteson came to me saying that with the frame of this machine he could very soon arrange it—this cross-feed—by replacing to it two shafts, one passing in the place of the one now from the handle to the lower gear, the other shaft from the large bevel-gear above the frame,
329 with a pulley, to get his cross-feed, by bolting the frame through these two holes in the lower part of it to his lathe-chuck; and that if I would allow him to use it for a short time it would save him a considerable amount of time in making something especially for that use. I told him to be careful in taking off those parts, and see that he could replace them when I wanted them. He said he would do so, and put them in the store-room where they would be safe for me.

(So much of the answer is objected to as states conversations between the witness and Mr. Matteson.)

Int. 6. Now please point out all the parts of machine No. 3 which were not used on that lathe?

Ans. One of these eccentric-boxes, the two formers, the lever and pressure-bar, the crank and shaft, and two upper gears were not used on that lathe.

Int. 7. In what were these parts not used on the lathe put, and where were they kept?

Ans. They were put into a keg, and were placed in a store-room upstairs in the northern part of the machine-shop—all the parts that I have named as being taken off of the machine—and together with a number of pieces of sheet-iron and zinc, of blanks, being partially shaped, and some of them being complete shaped casings and counters.

Int. 8. Please reconsider your answer with particular reference to that one of the eccentric-boxes (or soft-metal sleeves in which the journals of the rollers turn) which was taken off the machine, and state whether you mean to include that eccentric-box or not.

Ans. I should have excepted that eccentric-box, for it was not put into the keg with the other articles.

Int. 9. Where was it put and kept?

Ans. It was put in a small store-room, where files and other valuable tools were kept under lock and key, in one corner of the room that is known as the room where patterns are made in Bisbee & Endicott's shops.

Int. 10. Who made the patterns from which the frame of Exhibit Machine No. 3 was cast?

Ans. John R. Moffitt, myself.

Int. 11. Where were these patterns kept after these castings, which now constitute the frame of machine No. 3, were made from them?

330 Ans. They were kept in the fourth house, with a large amount of other patterns of mine, in a room generally known as Moffitt's pattern-room.

Noon recess.

Int. 12. Mr. Tetlow testified that you showed him a machine in '67 which shaped metal in two directions. Please state how you came to show him that machine.

(Objected to as immaterial and incompetent.)

Ans. I having heard much of Mr. Tetlow's experience and knowledge in the art of shaping iron and metals, therefore felt anxious to have his opinions in the art of shaping metallic pieces with the machine I had then completed, as machine Exhibit No. 3 now is. I solicited an introduction to him for that purpose.

Int. 13. State whether you had an introduction, and what you showed him, if anything.

(Same objection.)

Ans. I had an introduction; showed him the machine, and described to him all of its working parts, and the objects of its production.

Int. 14. State your reasons, in 1871, for reserving this machine from the auction sale.

(Same objection.)

Ans. My reasons were that in this machine I had a new process and device for shaping materials in two directions, and I therefore placed great value to it.

Int. 15. What made you particular, in '73, when a portion of your ma-

chine was used on a lathe, to preserve the other parts that were not used on the lathe?

(Same objection.)

Ans. That I could preserve the machine in all its parts, as I had it in 1867; seeing that leather and leather-board counters were likely to be a large business in the article of counters in the trade, and feeling there were no other process in the art of shaping them so desirable as were represented by this machine and its process, I therefore felt great interest in its preservation.

Int. 16. In your first deposition in this case you speak of a machine, built by you in '73, with a double former, and a roller, or circu-
331 lar support in connection with a stationary support of about the same width, in its concave surface, as that in machine No. 3. Please state now whether your '67 machine was used on the lathe before or after you commenced to build that '73 machine.

(Same objection.)

Ans. My '67 machine was used on the lathe-chuck after I built that machine above referred to.

Int. 17. State whether your '67 machine was used on the lathe before or after you first heard of the Coté machine.

(Same objection, and because the evidence called for is not in rebuttal to any of the new evidence introduced by the defendants.)

Ans. It was used both before and after.

Int. 18. Please state now what became of those parts of the '67 machine which were put in the keg, and also what became of the other contents of that keg, and the patterns from which the frame of Exhibit Machine No. 3 was cast. State first what you know about this, and second what you believe about it, giving briefly your reasons.

(Objected to as immaterial and incompetent.)

Ans. The parts of Exhibit 3 Machine that were put into the keg with other parts of metals, as above spoken, were put into the store-room, second floor, northern part of machine-shop, and from there disappeared about the same time that the patterns for the frame part of Exhibit 3 Machine disappeared, with a large amount of other patterns that belonged to me [and which, I have good reason to believe, were taken away by Mr. W. C. Wise, who is a witness in this case, without my knowledge or assent in any way].

(That part of the answer enclosed in brackets objected to as incompetent.)

Int. 19. Please state fully all the circumstances attending your discovery of their disappearance.

(Same objection, immaterial and incompetent.)

Ans. In about the month of May, 1875, as I came into the yard of Bisbee & Endicott's establishment, I was asked if I was aware that all my patterns were stolen away from my room, and with the suggestion that I should go and see. I went into the rooms and saw that they had all been taken away. From there I went into the machine-
332 shop, and I was inquired of by Mr. Daniel Matteson if I had been up in the store-room where the keg with its contents, as above stated, of the parts of Exhibit 3 Machine were stored, Mr. Matteson saying that he had seen Mr. W. C. Wise, who is a witness in this case, go into the store-room, and urged me to see to it at once if all was right of my property in this room. I went up to where the keg was placed, and where I had very often seen it to within a short time, but it could not be found, nor its contents. I immediately took the frame part of Exhibit Machine No. 3 from the lathe-chuck, and put men who

was in my care, as machinists, to work to replace the parts that had been taken away from me as stated above.

(So much of the answer objected to as gives conversations between the witness and other parties, and to the whole answer as immaterial.)

Int. 20. Do you recollect examining that keg and its contents any time in the year '74? If so, what led you to make such examination, and state particularly whether that examination had anything to do with, or in any way related to, litigation in regard to your counter-machine patents?

(Same objection, immaterial and incompetent.)

Ans. I do, and I did make an examination to see if all the parts were together; and the reason for my doing so was relating to a conversation on the subject of my patents and the Coté claims, which was with Mr. Emery Andrews, a witness in this case; for I then felt, and so told him, that all that Mr. Coté claimed was substantially embodied in my invention of 1867, and that I had preserved the invention, and that it was upstairs, meaning just above where we were then talking. The interest that Mr. Andrews had then taken in my inventions, and as he thought, and so expressed himself at that time, of a prospective litigation between me and these defendants, caused me more particularly to estimate the value of my inventions of 1867, as represented by Exhibit Machine No. 3; and I so decidedly expressed myself to him at that time.

(The whole answer is objected to as immaterial and incompetent, and especially to so much as relates to conversation between the witness and Mr. Andrews.)

Int. 21. Please refer to the 18th int. and ans. in your first deposition in this case, page 52 of the record first printed, and state any reasons additional to those there given, if there are any.

333 (Objected to as incompetent, and because it is not in rebuttal of any evidence introduced by the defendants.)

Ans. There are reasons. Messrs. Crosby & Gould were then my solicitors. I had intended and proposed to patent the device of my machine of 1867. They advised me, at the time, to patent the product, which would secure me the device on which it was produced from, by my preserving the same, and saying that as there were usually many changes in the devices for producing in new arts, that when I had developed my inventions I then could patent such devices as I could see advisble, and thereby save money expended for patents on what might be useless devices; therefore I took out a patent only for the product, which was the heel-casing.

(Whole answer objected to as immaterial and incompetent, and especially as it relates to conversations between the witness and Crosby & Gould.)

Int. 22. Mr. Wise has testified that the purpose of the eccentric-boxes in your '67 machine was to admit of the rolls being moved apart in order to put in the blank to be shaped, and then brought together in order to bring the proper pressure on the blank. State what the purpose of these eccentric-boxes is, and state also whether they were ever used, or not, as Mr. Wise describes.

Ans. I constructed the eccentric-boxes, Exhibit Machine No 3, with the intention that the formers could be arranged relatively to each other; to suit and be adapted for the thickness of material passing between the two formers and against the pressure-bar, to that of either former, that a casing, or a counter, could be formed, or shaped, at one operation, and give the desired curve at the same time and one opera-

tion, the boxes being turned and fastened by a set screw, after the eccentric-box was arranged as desired above, to suit the thickness and material. And the arrangement was not used as W. C. Wise has stated in this case, and there could be no occasion for its use as he has stated, by first putting the material in and then bringing the pressure. It is my opinion that he knew better than to make such a statement.

Adjourned till Jan. 1, 1879, at 10 a. m.

BOSTON, *Jan.* 1, 1879.

Int. 23. You have said that you believed that Mr. W. C. Wise took your patterns, and this keg and its contents. Please state what
334 reasons he could have for doing that, so far as you know or believe; and state also what reasons you have for believing that he did it, if any, in addition to those already stated by you.

(Objected to as immaterial and incompetent.)

Ans. I do believe that Mr. W. C. Wise took this property named, and my reasons are as follows: I have already testified in this case that in 1874 I repeatedly called on these defendants, endeavoring to make some satisfactory arrangement with them to me, but could not; and at about the month of April or beginning of May I have reason to believe there was a meeting held in their office, or premises, with different parties, designing to form a ring, the purport of which was to be offensive and defensive. I was not a party to that meeting; nevertheless, my name, as I have reason to believe, was frequently mentioned, and that Wm. F. Spinney and Chas. W. Melcher, who were licensees of mine at that time, were represented in that meeting, and that soon after the said meeting I received a notice from them which embodied the language that all relations between you and ourselves are therefore terminated, the consequence of which was an unfortunate litigation between them and myself; and that Mr. W. C. Wise, who is a witness in this case, was a stockholder in what was known as the Moulded Heel-Stiffener Co., a concern organized by Spinney & Melcher, and that he was superintendent of said concern. The said W. C. Wise was a witness in behalf of Spinney & Melcher,—or, as he called it, the Moulded Heel-Stiffener Co. in his evidence in that case—and he there swears that he took what Moffitt would call a large amount of patterns, and that he was taking them from time to time, and that he notified no parties, neither of the firm of Bisbee, Endicott & Co., nor of the man who had charge of the patterns, Mr. James Wolstenholme, nor myself, who he must have known had placed great value to this property; and that he could not have taken them for reasons, the danger of fire, as he had taken them from a one-story building on the premises of Bisbee & Endicott which was substantially apart from other buildings, and he has taken them to a three-story building on the premises of Wm. F. Spinney & Co., which was partially burned in 1872, and more liable to such a misfortune. Nor could he have taken them as a matter of more convenience for use, for reasons that he took them from a one-story building, off the floor,
335 and which fronted on the same yard that the foundry fronts in; and that among what I call this large lot of patterns were patterns that were of great importance to me in my case with Spinney & Melcher, and that were seen in this building very shortly before, as Mr. Wolstenholme, who has care of all the patterns, says it was cleaned out; and that I feel, in consequence of the loss of those patterns, a very important part of my evidence in the case with me and Spinney & Melcher was unfortunate for me; and that at the same time that those

patterns were last seen together by me in that room, generally called Moffitt's pattern-room, I saw the patterns from which the castings for this Exhibit Machine No. 3 were made, but have never seen them since this property in said patterns were taken from me without my knowledge or assent; and that about the time of the disappearance of this property named this Mr. W. C. Wise was seen going up to the store-room where this keg was placed, with its contents, as already stated, of the parts of Exhibit Machine No. 3; and that it was a place where Mr. W. C. Wise had no legitimate business, he being at the time connected with another concern and with other parties; and that this keg disappearing, and its disappearance coming to my knowledge about the same time and day that it became known to me the fact that all my property, as above stated, was taken away without the knowledge or assent of any party whatever belonging to the concern or premises of Bisbee & Endicott.

(Same objection to the answer as to the question.)

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 24 (de bene). Are all the matters stated by you in your last answer within your personal knowledge?

Ans. Only so far as I know by references to the evidence of W. C. Wise and others, and so far as I know of other facts, as I have stated myself.

Cross-int. 25 (de bene). Have you any personal knowledge of Wise going into the store-room where the keg was kept?

Ans. I did not see him go in myself, and only rely on the evidence of others.

Cross-int. 26 (de bene). Did you ever see any of the patterns
336 for Exhibit Machine No. 3, after seeing them in that pattern-room, as stated by you?

Ans. I have not.

Cross-int. 27 (de bene). What do you know of those patterns being in a three-story building to which you have referred?

Ans. At the time that Mr. W. C. Wise was giving his evidence in the case of Moffitt & Spinney a request was made for the production of this large amount of patterns taken away from me, after which the special examiner in the case (who, if I remember right, was Mr. Sleeper) by agreement adjourned to Chelsea, to take a memorandum of such patterns as could be produced that had been taken from me; and then, for the first time after the removal of those patterns, I had occasion, in assisting in the inventory, to go to this third story, while assisting in making out this list, and there saw the great bulk of what patterns we could find that had been taken away from me.

Cross-int. 28. For what purpose did Mr. Wise state he had taken the patterns from time to time, as you have mentioned?

(Objected to as incompetent.)

Ans. As I know, if any purposes, they were very inconsistent. His excuse in one statement was that I was altering a pattern that he wanted to use. As to this statement, if any such, at the time he refers to, it was a pattern belonging to me that they (Spinney & Melcher) had been using and I desired to have a casting from it, giving it additional strength, and that I only added to it by placing more material which could have been taken off in about one minute, and then the pattern would be as it always had been for his use, which I was willing to be done, and could not have been a matter of time more than a few minutes' delay to him to have done. And that other reasons that he has

given in his evidence, if I remember right, was more convenience in his getting his patterns to have castings therefrom. As to this reason, I feel it very inconsistent, the fact appearing that he took them from the lower floor of the building close to the foundry, to place in the third story of a building much further away.

Cross-int. 29 (de bene). Did Mr. Wise state, in that evidence referred to, that the reason he gave for taking the patterns were an excuse for taking them, or is the word "excuse" one of your own adoption?

337 Ans. The word "excuse" is of my own adoption, feeling it appropriate in the absencee of any reason for his doing so.

Cross-int. 30 (de bene). Did not Mr. Wise testify in that connection as follows: "I will swear I did not take any patterns, or any other patterns that were not used for the machinery of the mill of Wm. F. Spinney"?

Ans. [Amongst his contradictory statements] that does appear in his evidence.

(That part of the answer included in brackets objected to as not being responsive, and a voluntary prefix to the proper answer made by the witness.)

Cross-int. 31 (de bene). When was this ring meeting you have alluded to?

Ans. I have reason to believe this ring meeting was about the last of April or first of May, not far from that time, 1875.

Cross-int. 32 (de bene). Did not Mr. Wise state in his said testimony, among other things, "I was taking patterns from time to time since 1874"?

Ans. He does state so.

Cross-int. 33 (de bene). Were not the following questions given, and answers made thereto by Mr. Wise, in said evidence referred to by you, viz: "Cross-int. 208. Did you not take away from Bisbee & Endicott's pattern ware-room all of Mr. Moffitt's patterns, sometime in '74 or '75, and without notifying either Bisbee & Endicott or Moffitt? Ans. I did take away some patterns belonging to the machines used by Wm. F. Spinney, and other machinery in general, but was not aware at the time that these patterns belonged to Mr. Moffitt; and my reasons for taking these patterns away, that these patterns were mixed up with a lot of patterns belonging to Bisbee & Endicott, and also a lot of patterns that had been discarded by Mr. Moffitt, and when I wanted the patterns, being so many patterns there of different kinds, it was hard work for me to find my own; that is to say, the patterns used for machinery in the mill. I did not speak to Bisbee & Endicott about these patterns, for I did not think there was any need of it. Cross-int. 209. Why didn't you return to Mr. Moffitt all those patterns which you took away which were not needed for ma-

338 chinery in the mill? Ans. I was not aware that there were any patterns belonging to machinery in the mill, neither was I aware that Mr. Moffitt wished me to bring any patterns back that did not belong to the mill, he not making any remarks about taking the patterns. Cross-int. 210. When did you take these patterns? Ans. I cannot say exactly when, but took the patterns from time to time as I wanted castings. Some of the patterns I may have taken before I had the castings made. My reason for taking some of these patterns was that one of my patterns was used most every day, and in going after this pattern I found this pattern in the pattern-room, being ripped to pieces by the pattern-maker, so as to suit some castings that Mr. Moffitt wanted. If this pattern had been fixed according to Mr. Moffitt's

orders the patterns and castings would have been entirely useless to us without a great deal of extra work put on the castings to take the place of the old ones. This was the reason that I took the patterns from the pattern-room of Bisbee & Endicott, as Mr. Moffitt paid no regard to the trouble he put me to. Cross-int. 211. Why did you take those patterns which could be of no use in the mill of Spinney & Co.? Ans. As I have stated before, I wasn't aware that I took any patterns that was of no use. Cross-int. 214. Did you personally carry them away or did you have men to help you? Ans. I did not carry all of them away myself, but at times, as I had castings cast from the patterns, I sent some of the men over to get the patterns, and very often brought the patterns myself as I passed back and forth from the mill to Bisbee & Endicott's. Cross-int. 215. You had a quantity of these patterns carried at one time from Bisbee & Endicott's pattern-room to Spinney & Co.'s mill, didn't you? Ans. I carried what Mr. Moffitt might call a large quantity, and what I should call a small quantity, taking quite a long while to get all my patterns together, and at present there are some of the Moulded Heel-Stiffener Co.'s patterns in the buildings of Bisbee & Co. Not having any use for them I did not trouble them. Cross-int. 216. When did you take this quantity which took a long time? Ans. I cannot say when I took this quantity of patterns. Cross-int. 217. State as near as you can. Ans. As I said before, I cannot set any date or any particular time, as I have been taking the patterns from time to time since 1874. Cross-int. 218.

339 Don't you know perfectly well that it was after you stopped using Moffitt's press? Ans. No, sir; I do not; and am sure that most of the moulded heel-stiffener patterns were on the premises of Wm. F. Spinney & Co. before the presses were destroyed in May, 1875?"

Ans. The questions referred to were given, and the very inconsistent statements in a great part were also given in answer.

Cross-int. 34 (de bene). You were not asked in the last question whether the answers given by Mr. Wise were consistent or inconsistent, but simply whether the answers were given. Will you please answer the question?

Ans. They were given.

Cross-int. 35 (de bene). When did your relations with Spinney & Co., referred to, terminate?

Ans. If I remember right, about May 29, 1875, I received a notice from Messrs. Spinney & Melcher which related to a contract between them and myself, in which notice were about the words "therefore all relations between you and ourselves are hereby terminated." I therefore was compelled in due process to notify them of my intentions in accordance with legal proceedings, and I can't say correctly whether our relations terminated at the time of the cancellation of said contract or subsequently, or rather I should say the date of this notice.

Cross-int. 36 (de bene). What had been your business relations with Spinney & Melcher previous to that termination, and how long had that continued?

Ans. About 1869 I got a patent for a heel-counter. January 1st, 1870, Messrs. Spinney & Mecher entered into a contract with me for the use of this patent and the exclusive control of it during its period; and that it was mutually agreed that I should aid them and assist in the manufacture and the developments of a great number of devices in machinery necessary to the successful operation in all its parts; and that I was to do so gratuitously, or, in other words, without a salary or pay

for my services, and that I would continue with them in that way until such time as the business might be, with all its intrinsic operations, considered a success; and that in 1871 and '2 they failed to make payments in accordance with the contract between us. About '72 or '3 there was a modified agreement of the original, which they had
340 not complied with in payments, which was a consideration for one year. After this year another modified agreement, reducing the royalties, was made and signed between us. Neither was this agreement complied with, which extended to some time in '75—October, I think. During this period spoken of, up to 1872 or '3, from the nature of the manufactory, having a large amount of new inventions to be completed and tested by time, to know of their practical utility, it involved upon me my absolute and undivided time, as we were, for a length of time, running day and night, and then unable to meet the demand; that many of the hours of midnight, Sabbath included, that in order to keep the mill running and supply the large demand I was compelled to give my attention as stated until early in 1873, when I had reason to feel that I could give my attention to my new inventions and processes that I had made in 1867.

Cross-int. 37 (de bene). What of your patents and inventions were employed by Spinney & Melcher during this period you were so connected with them in your business relations?

Ans. The first was my patent of 1869 for a counter. Also, my patent, April 2d, 1867, for a cylinder rubber-press. Also, improved apparatus for shaping counter-stiffeners for boots and shoes, dated Feb. 16, 1875. Also, improvements in machines for trimming boot and shoe heel-counters, dated Jan. 5, 1875.

Cross-int. 38 (de bene). Where were the original patterns for all the machines named in your last answer originally used, and by whom were the castings made therefrom?

Ans. The original patterns, or, in other words, the patterns for the first press that I made for vulcanizing and shaping articles of rubber, was made in 1864, and the castings I got at Pratt & Wentworth's, I think. In 1865 I made another set of patterns, making a larger machine; hence separate patterns were necessary for all its parts. The castings for this machine were made in Bisbee & Endicott's. In 1866 I again made another still larger cylinder rubber-press for vulcanizing articles of rubber. The castings for this press and machinery work was made in Bisbee & Endicott's. In 1868 I again made patterns for a much larger machine, press for vulcanizing articles of rubber. All of these patterns were kept at Bisbee & Endicott's from about '65
341 or '6, in a room separate from other patterns belonging to Bisbee & Endicott and other parties, with perhaps one exception or two, in what was known as Moffitt's pattern-room, until the time above repeatedly spoken of, which was about May, 1875, when all of these patterns, the great bulk of which I made with my own hands, were taken away.

Noon recess.

And there were also, in addition to these patterns, a large number that I had made, and also a number that I had made by others, for the trimmers and the moulds used on the premises of Bisbee & Endicott, and with a number of patterns that I had used in connection with my rubber-heel devices, and including the patterns from which the frame of Exhibit Machine No. 3 was made, which were all in the room known as Moffitt's pattern-room, as above stated.

Cross-int. 39 (de bene). Spinney & Melcher were manufacturers of your heel-stiffeners, were they?

Ans. They were exclusive manufacturers of my heel-stiffening patents of 1869, as per contract.

Cross-int. 40 (de bene). What was this organization designated as the Moulded Heel-Stiffening Co.?

Ans. All that I know of it is that it was organized by Spinney & Melcher with a view to better arrange its interests in connection with W. C. Wise and other parties.

Cross-int. 41 (de bene). Was W. C. Wise the machinist employed by Spinney & Melcher, during the time of your business connection with them, or any part of it?

Ans. W. C. Wise was employed by Spinney & Melcher, I think, in the fall of 1872, and I give my attention and services from that time, so far as was necessary, to make W. C. Wise familiar with the operations of the different machines, and other considerations in the manufacture of said counters, until early in '73, when I felt that I could leave the concern and again proceed with my inventions of 1867 in the process of making counters, as represented in the Machine Exhibit No. 3.

Cross-int. 42 (de bene). Will you please hear the the last question reread, and answer that question?

Ans. He was.

342 Cross-int. 43 (de bene). As such machinist for Spinney & Melcher, what were the duties Mr. Wise had to perform?

Ans. They were that of an ordinary machinist, to see that the machines were kept in order, and if necessary to regulate such parts as might become disarranged.

Cross-int. 44 (de bene). For that purpose was it not necessary for him to use your patterns to some extent?

Ans. It was necessary for him to use such patterns as belonged to the different machines, in case of repairs; also, to use certain mould patterns of the late improvement; but not necessary for him to take and use patterns that had no reference to the business that he had charge of.

Cross-int. 45 (de bene). Spinney & Melcher, and those acting under their authority, had free access and right to use all of your patterns of the machinery they operated under their contract with you, had they not?

Ans. They had free access and the privilege of using such patterns that belonged to me, and desired to be used legitimately in their business. Not to destroy them, I mean.

Cross-int. 46 (de bene). How far distant from this room where your patterns were kept was the store-room where the keg was kept with certain parts of the machine in it, as you have stated?

Ans. It was probably not far from a hundred feet.

Cross-int. 47 (de bene). Were any other pieces or parts of your machinery kept in that store-room besides what were kept in the keg?

Ans. There was. A large tool-chest of mine, and an amount of machinery and fixtures that I was not using at the time, that belonged to me, besides other machinery, steel, bolts and nuts, &c., belonging to other parties.

Cross-int. 48 (de bene). Do you know whether or not that room was sometimes called the "scrap-room"?

Ans. I never heard any one call it a scrap-room except W. C. Wise in giving his evidence in this case, wherein he also spoke of rubbish.

Cross-int. 49 (de bene). Whether or not there were kept in this room some parts or pieces of the machinery, or like the machinery, used by Spinney & Melcher under your contract with them?

343 Ans. None whatever that I have ever seen during the many times that I had occasion to go to my tool-chest, nor could they have been, I think, without my noticing them, as there was nothing belonging to the concern of Spinney & Melcher but what I should be familiar with during the long and attentive interest that I felt in that concern.

Cross-int. 50 (de bene). Were there no castings, or pieces of the machines, or like the machines, which Spinney & Melcher operated, except the machines and parts delivered over to them by you?

Ans. Yes, there were in the machine-shop frequently parts belonging to the concern of Spinney & Melcher, but none of these parts would have occasion to be put up in this store-room, as Spinney & Melcher had their own store-room for parts not in use, and when completed or repaired were usually taken to their place soon after.

Cross-int. 51 (de bene). Were there not sometimes imperfect or injured parts or pieces of that machinery used by Spinney & Melcher which were laid aside in the store-room where old pieces and parts were kept?

Ans. There were frequently pieces, such as named above, on the premises of Spinney & Melcher, and in their various rooms, and that such kind of pieces was laying round in the machine-shop of Bisbee & Endicott; but as this store-room spoken of was upstairs above the machine-shop, in the northern part, being a distance and out of the way in another direction, I see no reasonable probability that anything belonging to Spinney & Melcher should have been carried or was put into this store-room.

Cross-int. 52 (de bene). You cannot state positively, upon oath, that there were no such pieces belonging to Spinney & Melcher in that room, can you?

Ans. I can state positively, on oath, that I had occasion very frequently, and sometimes many times in the same day, to go up into this store-room, during the period from the summer of 1873 to the time that these articles that were put into the keg, a part of my machine Exhibit No. 3, disappeared, and should at any time within the time I have spoken of that there was anything there belonging at any time to Spinner & Melcher I feel certain I would have seen it. And I may add as a reason, further, I had other machines there in that store-room which

344 I was constructing and experimenting on occasionally, making me more familiar with the contents of that room.

Cross-int. 53 (de bene). Will you please answer the last question on its being reread to you?

Ans. No further than what I have already stated.

Cross-int. 54 (de bene). The machinist's work of Spinney & Melcher—for you said machines which they were operating—was done at Bisbee & Endicott's, was it not?

Ans. A part of it was done at Bisbee & Endicott's; a large part of it was done on the premises of Spinney & Melcher.

Cross-int. 55 (de bene). The machinist of Spinney & Melcher was engaged for some time at Bisbee & Endicott's when that machine work was done for Spinney & Melcher, was he not?

Ans. A portion of the work on these machines was done by Bisbee & Endicott, the balance at Spinney & Melcher's. I don't know of the same machinist working in both places at the same time.

Cross-int. 56 (de bene). When Spinney & Melcher were having ma-

chinist's work done at Bisbee & Endicott's was not Mr. Wise some part of the time engaged upon such work at Bisbee & Endicott's, or there in relation thereto?

Ans. Previous to the fall of 1872, Mr. Wise was a machinist employed by Bisbee & Endicott, and after 1872, while in the employ of Spinney & Melcher, he had occasion to frequently go into the machine-shop of Bisbee & Endicott. I can add there, for the purpose of superintending repairs and directing work that they had done in the machine-shop of Bisbee & Endicott.

Cross-int. 57 (de bene). What share of your time, between 1872 and 1875, when you discovered these patterns were missing, did you spend at Bisbee & Endicott's shop or place of business?

Ans. From early in 1873 I give almost my undivided time in the various constructions in carrying out and developing my invention of 1867, as represented in Exhibit Machine No. 3, to the time spoken of in 1875, except only when called away in some brief cases. I was there during this period, working, with my own hands and superintending other workmen in the various forms and constructions in the developments which I have already stated in this case, together with all that I have stated, spending large amounts of money thereon.

345 Cross-int. 58. When was the machine dismantled, and a portion put away in a keg, and the residue used for a cross-feed on a lathe, as you have stated?

Ans. About the latter part of 1873.

Cross-int. 59. Were you present when it was taken apart?

Ans. I was not.

Cross-int. 60. Do you know of your own knowledge whether the rolls were upon the machine at the time it was taken apart, or just previously thereto?

Ans. Yes; I do know they were on.

Cross-int. 61. How long, previous to the time of its being taken apart, was the last time you saw the machine?

Ans. Perhaps a few hours; not many.

Cross-int. 62 (de bene). When was the conversation you referred to between you and Mr. Andrews?

Ans. In the latter part of 1874, soon after I gave him a license to make and use my patent of May 21st, 1872, now in suit in this case.

Cross-int. 63 (de bene). Did you give him license under any other patents?

Ans. Not that I recollect of at that time.

Cross-int. 64 (de bene). Did you not, at the time of giving him license, agree to give him further license under any other patents you might obtain, or something to that effect?

Ans. I think that I did, so far as relating to my new process embodied in the patent above named.

Cross-int. 65 (de bene). Did Mr. Andrews go with you up into the store-room and look at those parts of said machine in the keg?

Ans. He did not.

Cross-int. 66. When was you first introduced to Mr. Tetlow, who has testified?

Ans. About the middle part of 1867.

Cross-int. 67. In what month?

Ans. If my memory serves me right, it was about June.

Cross-int. 68. Was your machine in question then completed?

Ans. It was.

Cross-int. 69. You knew at that time what you could do with it, did you?

346 Ans. I did.

Cross-int. 70. Then you did not desire the introduction to Mr. Tetlow in order to find out whether or not the machine would operate as you desired, did you?

Ans. I desired the introduction, knowing of his great experience and knowledge in the working of metals, to ascertain from him if he had seen any similar device, and that he might aid me in his suggestions in the completing of the parts relating to the second process, which I was then commencing, for the purposes of giving a more desired shape to my counters and casings.

Cross-int. 71. Can you testify whether this conversation with Mr. Tetlow was in June, July, or August in that year?

Ans. Having made no record of the time, I testify only from memory.

Cross-int. 72. Referring to the auction sale spoken of, was not that a sale on execution against you?

Ans. I cannot at present give you the facts in that case. The sale was made at my request, and some of Mr. Bisbee & Endicott's party went to some counsel and arranged the proceedings.

Cross-int. 73. Was not that sale made by a sheriff or other officer; and, if so, by whom?

Ans. I presume it was a legal arrangement, in which I can give no names of parties connected with it other than Bisbee & Endicott.

Cross-int. 74. Were you not sued?

Ans. I may have been, for it would not be wonderful in the history of an inventor.

Cross-int. 75. Do you not know what lawyer brought the suit?

Ans. I do not, further than it was some lawyer in the city of Boston. I cannot give the name.

Cross-int. 76. Do you not know what officer served the writ or the execution?

Ans. I do not.

Cross-int. 77. Was the lever or handle of the pressure-bar, as originally constructed, made of wrought or cast iron?

Ans. It was made of wrought-iron.

Cross-int. 78. Who made it?

347 Ans. One of Bisbee & Endicott's blacksmiths done the forging. Myself and W. C. Wise done the fitting of it in the machine.

Cross-int. 79. Who did the forging?

Ans. I cannot say to a certainty. It may have been Mr. Brown, who has been there a great number of years, and is there now.

Cross-int. 80. When was the pressure-bar now shown on Exhibit Machine No. 3 made, and by whom?

Ans. About June, '75, and was fitted to the machine as it now appears, by Mr. Elijah Endicott, under my direction.

Adjourned to Jan. 2d, at 11 a. m.

BOSTON, *Jan.* 2, 1879.

Cross-int. 81. Did you ever see any machinery for the construction of boxes for paper collars?

Ans. I did.

Cross-int. 82. When was it first, and where?

Ans. In 1873, and in some establishment, whose name I don't remember, at Lawrence.

Cross-int. 83. Whether or not that machinery and its operation suggested to you the adoption of the same or similar machinery for making counters or heel-stiffeners?

Ans. It did not, as it was not in operation when I saw it, which was after I commenced working at that state of the art, in making counters.

Cross-int. 84. Whether or not, by that machinery for boxes for paper collars, the material for the boxes was bent in two directions; and, if so, in what two directions?

Ans. It was not. All that I saw, or had any information of at the time, was a lot of machinery in a certain place in Lawrence, which consisted in what I would call a strainer-mould, in which was intended to form paper-collar boxes direct from the pulp, forming a body of the desired shape of abox.

Cross-int. 85. Did you not see any machinery for rolling these boxes after they were formed, as you have stated?

Ans. Yes; I was shown machinery in that establishment for that purpose, and was told it was impracticable, and I remember suggesting to the party showing me it an addition that might make
348 it a success, and referring to some of my experience in a similar arrangement. There was none of this machinery and no other machinery in this part of the establishment in operation at the time.

Cross-int. 86. Did you not state in substance to Wm. F. Spinney, or one of the firm of Spinney & Melcher, that you had seen such machinery for making paper-collar boxes, and that it suggested to you that it might be adopted, either alone or with such alterations as you could make, for making heel-stiffeners, or something to that effect?

Ans. I have a distinct recollection of a conversation with Mr. Wm. F. Spinney, and no other of the firm, at a time when I showed him one or more counters that I had made on my machine in 1873, which is referred to in this case, and a part of it as exhibits in this case, at the same time giving him a history of my operations, and so far as my memory can serve me saying that I was at a place in Lawrence where they were making paper-collar boxes, or had intended to do so, as they had then abandoned the devices, and it is my recollection that I said to Mr. Spinney that those parties had much of my idea in the process of forming direct from pulp a material shaped to a desired form. They had told me of their difficulties, and I had suggested to them what might be added to overcome what seemed to them to be a failure. And it is my recollection that I told Mr. Spinney of the courtesies that I had received through one of the members of that concern, in getting a note of introduction to some party who was the one that I had this interview with while there; and that I remember of saying that he gave it with pleasure, hoping that I might make some suggestion that might aid them. And so far as my memory serves me this is about the conversation that passed with me and Wm. F. Spinney, relating to this subject.

Cross-int. 87. Whether or not, pursuant to this conversation with Mr. Spinney, and the seeing of said machinery at Lawrence, you signed a paper which was drawn up by you or at your instance, in which you stated in some form, substantially, that you had conceived the idea of applying the rolling motion in the manufacture of counters, or something to that effect?

(Objected to because the paper is not produced, nor is notice given us to produce it, and also as incompetent.)

349 Ans. I've no distinct recollection of any paper drawn up be-

tween Mr. Spinney and I relating to this subject-matter. There may have been, or there may not have been.

Cross-int. 88. I do not inquire whether or not such paper was drawn up between Mr. Spinney and you, but was there not such a paper as inquired of in the last interrogatory drawn up by you or at your instance, and signed by you?

Ans. I think there may have been, as to take the form of caveat; and I am now reminded of saying that I had heard of what was doing in Lawrence in the way of shaping direct from pulp, from which the idea suggested to me that of shaping a heel-stiffener direct from pulp; that the waste in cutting stiffeners from sheet-board might be saved, and also that of forming into sheet and then rolling, which I have referred to in this case, as a consideration I had in this process.

Cross-int. 89. What did you do with that paper, where is it, and will you produce it to be used in evidence in this case?

Ans. At present I do not know whether it is among my papers or not, but I feel it probable that I left it with Mr. Spinney, and not improbable that it is in the care of these defendants. I have not thought of it since until this examination.

Cross-int. 90. Whether or not you personally left that paper, or directed it to be left, with your patent solicitors, Crosby & Gould?

Ans. It is possible. It may have been either way; left as a private paper.

Cross-int. 91. Will you make search for it, and produce it to be used in evidence in this case if you can find it?

Ans. I will, with pleasure, so far as my premises are concerned.

Cross-int. 92. Will you not make such search or inquiry of Crosby & Gould, or the surviving partner of that concern, or their successors in business, and produce the paper to be used as evidence in this case, if you can find it?

Ans. It occurs to me as suggesting that these defendants know of the whereabouts of this paper, and if they can't get it I will make all due efforts to get it and produce it to be used as evidence in this case, of Crosby & Gould or anybody else.

350 Cross-int. 93. As that paper is a private paper of your own, will you not make the investigation requested in the last int., and if you can find it, produce the paper to be used in evidence, without regard to whether the defendants can procure it or not?

Ans. Should there be a private paper of mine of this nature, to the knowledge of these defendants or their counsel, in the care of parties who I have no acquaintance with or any business whatever, for many years, say since the death of Mr. Gould, I will here authorize the counsel, Mr. Wakefield, for defendants in this case, to bring forward such paper as may be a private paper of mine, if any, as I feel that I could trust him with such paper, and in case of his failure to do so I will use all due efforts at my command to produce it.

Cross-int. 94. Will you please answer the last question directly on its being reread to you?

Ans. I will call on them for that purpose.

Cross-int. 95. Will you please hear the question reread again, and answer it directly?

Ans. I will do so.

Noon recess.

Cross-int. 96. Why was one of the boxes of your original machine

put away in a different place from the other portions that were taken off from it?

Ans. For reasons, I should say, as that given me by Mr. Daniel Matteson, a witness in this case, that it being of softer metal, and liable to be jammed or injured in connection with other parts of Exhibit No. 3, that were put into the keg, and the same keg that was placed in the store-room, he therefore thought it best to put it into his small room in the one corner of the room where patterns were made, and the said room being under lock and key he felt that it would be more safe in that room when wanted.

Cross-int. 97. Did you see the pieces put into the keg?

Ans. I did not.

Cross-int. 98. How soon after the machine was taken apart did you see them first?

Ans. It was very soon after. I can't say how many hours or days.

Adjourned to Saturday, January 4, at 10 a. m.

351 BOSTON, *Jan.* 4, 1879.

Cross-int. 99. Whether or not you have ascertained in what court the suit was brought on which the articles referred to were sold at auction, and also who was the officer, and who was the plaintiff's attorney?

Ans. I have made such inquiry to ascertain all the facts relating to the auction sale referred to, and as to what was sold and what was not sold. I found at Messrs. Bisbee & Endicott's the sheriff's bill in the suit of Bisbee & al. vs. The American Rubber Heel Co., Codman & Johnson, attorneys for plaintiff, which their books show was paid May 26, 1871; also that the suit was No. 4787 in the superior court, county of Suffolk, writ dated May 9, 1870, execution dated Nov. 17th, 1870. Dearborn & Co. were auctioneers. Articles which consisted of a large power-punch, with other material. I also find, in the books of Messrs. Bisbee, Endicott & Co., in my account with them, beginning May, 1867, the following credit in account of work done on machine Exhibit No. 3, May 24: "For cash on account of heel-former, $50," which was payment for said machine made in 1867, and now Exhibit Machine No. 3, in this case.

Cross-int. 100. Have you made the other investigations called for relating to the caveat?

Ans. Yes. On the afternoon of the 2d I called on Mr. Gregory, the successor of Crosby & Gould, the party referred to, and a solicitor of patents. I stated to him my wishes to get a certain private, so called, paper of mine, that I had reason to believe was in his possession, and also that it related to the process of making counters from pulp, and with a rolling action to solidify them. He answered that if I would come in the following morning that I should have such paper if it was in his possession and could be found. When I called the next morning the younger Mr. Gregory was out of the office; that his father replied that he would look for it, and endeavor to get it for me, but failed to find it. About then the younger Mr. Gregory, the man referred to, came in, and after a search he said, "I have searched an hour and I fail to find any such paper;" therefore I have failed to get possession of this private paper of which so much has been said about.

Cross-int. 101. Do you think you have exhausted your means of procuring it?

352 Ans. I don't know that I have.

Cross-int. 102. Will you make such further efforts to find it as

you can reasonably, and if you find it, return it to the examiner, to be marked as an exhibit in this case?

Ans. After all that I have done towards getting possession of this so-called private paper of mine, I feel that I have good reason to decline such a request.

(Examination suspended to take the deposition of Gustavus V. Salisbury.)

Adjourned to Jan. 6, 1879, at 10 a. m.

JAN. 6, 1879.

Redirect examination:

Int. 103. Please refer to cross-int. 91, and state whether you have made the search referred to in the answer to that question, and with what results.

Ans. Since the adjournment here I have made careful search in all my papers, and fail to find any such paper as referred to above.

Int. 104. Please refer to cross-int. 102, and state what became of the paper referred to, so far as you can now recollect, and state whether you are able to find it or not, and generally give all the information in your power to enable it to be found.

Ans. So far as my memory serves me, the paper referred to was given to Mr. Gould, of the firm of Crosby & Gould, at the time, and that I had not thought of it since, until the interrogatories relating to it as above, and, as I have stated, I have called to that office with a request to one of the successors, Mr. Gregory, the results of which as I have stated above; and since then a careful search that I have made, and so far I am unable to get any knowledge of it, and by advice of my counsel I will make all reasonable efforts to obtain the paper referred to so frequently in interrogatories as above by the counsel for these defendants.

Int. 105. What was your business for a year or two before you commenced to make Exhibit Machine No. 3, and the other machines in connection with it; and where did you carry on that business?

353 Ans. During 1866 I made one of my large cylinder rubber-presses, and put it in order in the factory of the Boston Rubber Shoe Co., for the purposes of making rubber stiffenings. I was engaged with that operation until April of '67; then I commenced the construction of Exhibit Machine, No. 3 in this case, and soon after other machines connected with the shaping to a more desired form of my casings and counters, after giving them the circular shape by Exhibit Machine No. 3. All the above-named machines I made in the shop of Bisbee, Endicott & Co., of Chelsea. I mean to include the rubber cylinder press.

Int. 106. How long were you engaged in making Exhibit Machine No. 3 and the other machines for the same work?

(Objected to as immaterial, and not in rebuttal to any evidence put by the defendants.)

Ans. I was engaged with Exhibit Machine No. 3, and the machine Exhibit Machine No. 7, and other machinery connected with the same, until about the last of August, 1867.

Int. 107. What was your business from August, '67, until your contract with Spinney & Melcher of Jan. 1, '70, and where did you carry it on?

(Same objection.)

Ans. About the last of August I commenced the developing of a

rubber counter, in the interest of Mr. Alfred Wilde and others, in a building off the foundry of Bisbee & Endicott's, and continued to do so until about the year 1870.

Int. 108. Where were all the patterns made by you, or for you, from '66 to '74, both inclusive, kept, when not in use in the foundry?

Ans. They were kept in the fourth house of a number of houses which Bisbee & Endicott had exclusively for patterns, fronting in the same yard with the foundry, and the room of which was known as Moffitt's pattern-room.

Int. 109. Some of the witnesses for the defendants have testified, in substance, that there was a collar upon what has been called the convex roll of the machine you built in '67. Please refer especially to that roll in Exhibit Machine No. 3, and to the parts immediately below it, and state whether it is true or not that there was a collar on this convex roll; and state, also, how the convex roll and the
354 parts immediately below it in Exhibit Machine No. 3 differ, if at all, from like parts in the original machine?

(Objected to as not being in reply or in explanation of any part of the cross-examination of this witness, but new matter.)

Ans. The roll or former in the original machine—I mean the convex one—had no collar, and was as near like the one now in Exhibit Machine No. 3 as anything could be, duplicated from the same pattern, a sheet-iron pattern which I had kept, and fitted the outer surface of the former and down to the journal part of the roller, and all the parts of the said former are now as near as could be formed to what they were in 1867. And the parts immediately below it and in connection and with the pressure-bar are as near an exact duplicate as I could arrange to it.

Int. 110. Please explain more fully what you mean by the sheet-iron pattern in your last answer, and when you made it, and what became of it?

Ans. It was a pattern made from a piece of sheet-iron, that the edge of it fitted to the convex former of the machine in 1867, and I had it in my possession at my residence, with some casings and counters of zinc, and I fitted the convex former now in Exhibit No. 3, by the same pattern, and the workman, [Mr. Emery, told me, when I called on him for it, that he had lost it]. This pattern spoken of I made in 1867.

(That portion enclosed in brackets objected to as heresay.)

Int. 111. When, in whose hands, and where did you last see it?

Ans. In 1875, in the machine-shop of Bisbee & Endicott. I gave it to Mr. Emery, a witness in this case for the defendants, that he might thereby fit the convex former now in Exhibit Machine No. 3 to this pattern, and I have not seen it since.

Recross-examination:

Cross-int. 112. After refitting the Exhibit Machine No. 3 what did you do with it, and where did you keep it?

Ans. Soon after I had the machine Exhibit Machine No. 3 refitted as it was in 1867, I took it the office of Mr. James E. Maynadier,
355 then on School st., and it has remained in his care since then, except a few brief times when the defendants or myself wished to take it away.

Cross-int. 113. Then the machine was refitted for the purpose of being used or referred to in this controversy, either in view of a suit or after this suit was commenced, was it not?

Ans. I have always held the machine I invented in 1867 with much interest, and intend to put it to use, and I may add, as Mr. Andrews, a witness in this case for the defence, has spoken in substance of my confidence, referring to a prospective litigation, or at that time I may say, but a probable one relating to the Coté patents which were granted to Wm. L. Coté, of St. Hyacinth, Canada, that I then felt them, were substantially all in my invention of 1867, that any reference from that patent could be made to, and that until the time I made the discovery after parts of said machine having been taken away, and for some time after I had refitted the machine, I had no reason to believe that I would be brought into any litigation.

Cross-int. 114. When you commenced to refit the machine were the parts spoken of then upon the lathe used for a cross-feed, as above stated, or had they been taken off from the lathe before that?

Ans. As I have stated before, when I become aware of the parts of Exhibit Machine No. 3 having been taken away without my leave, consent, or knowledge, I then immediately took the parts that were on this lathe of Exhibit Machine No. 3, and which was intended to be used temporarily and for a brief time for the purposes of getting the cross-feed, and had it refitted.

Cross-int. 115. Did you, or not, take those pieces so used for a cross-feed, and have the machine refitted, in view of some possible controversy between your alleged invention and the Coté machine?

Ans. The fact that I always intended that this Exhibit Machine No. 3 was of great value to me, and that I intended to keep it intact, I would have had it refitted immediately after the loss of those parts so frequently referred to, and made just as it was in 1867; but I will add that after the loss of a large amount of property to me, with the simultaneous disappearance of the parts referred to of this Exhibit Machine No. 3, and among other which I believe to be very good reasons that perhaps a lawsuit was inevitable, and that I felt the importance, therefore, of having replaced all the parts so taken away
356 from me again to the machine, correctly, and as far as in my power to have them just what they were in Exhibit Machine No. 3, in 1867, and I done so, not thinking of any litigation, or anything else, but as I have above stated.

Cross-int. 116. You took that machine, after it was refitted, to the office of Mr. Maynadier, as your counsel, in view of some possible controversy between your alleged invention and the Coté machine, did you not?

Ans. Not wholly so.

Cross-int. 117. Was the machine, when you first took it to Mr. Maynadier's office, identically the same in its construction in all its parts as is now shown in Exhibit Machine No. 3.

Ans. It certainly was.

Cross-int. 118. Did you not make, or have made, some change in the pressure-bar, or part thereof, immediately under and adjacent to the convex roll, or in the play of the shaft up and down so as to give more space under the base of the convex roll than there was when it was first placed in Mr. Maynadier's office?

Ans. I made no such change, nor did I direct any such change.

Cross-int. 119. Was not some such change made to your knowledge by some one?

Ans. There was not.

JOHN R. MOFFITT.

Attest: CHAS. F. SLEEPER,
Special Examiner.

Deposition of Gustavus V. Salisbury.

BOSTON, *January* 4, 1879.

Direct examination by E. F. HODGES, Esq., of counsel for complainant:

Int. 1. What is your name, age, residence, and occupation?

Ans. Gustavus V. Salisbury; 33; Chelsea, Mass.; machinist.

Int. 2. How long have you been a machinist? Where have you followed the trade, and where do you now work?

357 Ans. As far back as '64, as near as I can remember. Bisbee & Endicott, corner of Marginal and Pearl streets, Chelsea. I have always worked there.

Int. 3. Please look at Exhibit Machine No. 3, and state whether or not you have ever seen that, or a machine substantially like it; and, if yea, where and where?

Ans. I've seen the same machine, this one. I saw this machine in Bisbee & Endicott's when I was at work there; they had it on trial, working on it as far back as '72, as near as I can remember.

Int. 4. Do you know John R. Moffitt, and how long have you known him, and when?

Ans. I do; since about '65, as near as I can remember. At the shop of Bisbee & Endicott.

Int. 5. Please look at the lever upon machine No. 3, and state whether or not it is the same lever you saw on the said machine at Bisbee & Endicott's; if not the same, how does it differ?

Ans. Something similar to a lever of this kind. As near as I can remember it was shorter, and round at the part you take hold of.

Int. 6. Whether or not you ever saw any work done upon that machine; and, if any, what? I refer to making any article with that machine.

Ans. Yes; I see 'em roll up heels made of Russia iron, thin Russia iron.

Int. 7. Please look at Exhibit Peverly 1, and say whether or not that resembles the piece of Russia iron you saw operated on as last mentioned by you.

Ans. It does.

Int. 8. Please look at Exhibit Peverly 2, and say whether or not that resembles the article after it had been operated on by the said machine.

Ans. It does.

Int. 9. Please state whether or not the first time you saw that machine was as early as 1867.

Ans. As far as I can remember, it was.

Int. 10. Do you know Wm. C. Wise, and how long have you known him.

Ans. I do; ever since 1862.

358 Int. 11. Where was he at work when you first saw this machine?

Ans. At Bisbee & Endicott's.

Cross-examination by THOMAS L. WAKEFIELD, Esq., of counsel for defendants:

Cross-int. 12. What were they doing upon said machine at the time you saw them working on it in 1872, as stated by you?

Ans. They were rolling up these counters—sheet-iron counters—

these pieces I have stated, as near as I can remember, but I am not certain.

Cross-int. 13. Can you say positively whether it was in 1872, or 1873, or in 1874 that you saw them working on the machine as you have stated?

Ans. No; I cannot.

Cross-int. 14. Are you positive it was not as late as 1875?

Ans. Yes; I am positive.

Cross-int. 15. Where in Bisbee & Endicott's shop was the machine when you saw them working on it, as you have stated?

Ans. I couldn't tell exactly the spot, but it was in the shop. It might have been the farther end, or it might have been this end. The gentleman that worked on the machine had his bench next to Pearl street.

Cross-int. 16. Do you remember distinctly any other time that you saw the machine, except when you saw them working upon it as you have stated?

Ans. I saw it most every day, being at work there close by the gentleman who was at work on it, the next vise to him.

Cross-int. 17. When you saw them at work upon it, as you have stated, was it on a horse as it is now, or held in some other way?

Ans. It was held in a vise while the gentleman was at work on it.

Cross-int. 18. Do you mean in your last answer that it was held in a vise at the time when you were making the sheet-iron heel-casings to which you have referred?

Ans. At the time they was making the sheet-iron heel-casings it was on a horse similar to this, a wooden structure that stood upon four legs.

359 Cross-int. 19. Do you remember, so as to make oath to it, positively, whether it was in '67, '68, '69, or '70 that you first saw that machine, or one resembling it?

Ans. I can't say as I could, positively.

Cross-int. 20. When you first saw it, what was being done with it or on it?

Ans. When I first saw it, it was being bored out on a lathe for these eccentric bushings.

Cross-int. 21. What did you see done with it after that time, till you saw men at work on it making the heel-casings, as stated by you?

Ans. The machine laid round the shop there for quite a time, and then it was used as a cross-feed, on a lathe, for turning large pulleys.

Cross-int. 22. While it lay round the shop, where was it; in the loft above some of the time, or where?

Ans. It was in what is used for a pattern-shop; as near as I can remember, in a loft above, up one story.

Cross-int. 23. When you saw the machine lying about, before you saw it used in making heel-casings, what was the condition of the machine? Was it all together, or partially separate?

Ans. Partially separated.

Cross-int. 24. Do you remember of ever seeing the machine organized, and the parts arranged together so as to make heel-casings, before the time you saw them at work upon it making them?

Ans. Yes, I did.

Cross-int. 25. Where was it then?

Ans. It was in the shop of Bisbee & Endicott.

Cross-int. 26. Where in the shop of Bisbee & Endicott?

Ans. In the farther end, I should think.

Cross-int. 27. Did you make any careful examination of the machine?

Ans. Nothing more than, that as I was passing by, to look at it, being a new machine.

Cross-int. 28. Were not the holes in which the rolls are journaled cast in the block when the block was cast?

Ans. As near as I can remember I think the block was solid.

Cross-int. 29. And the holes drilled through the block, were they, instead of being cast in it?

360 Ans. They were, as near as I can remember.

Cross-int. 30. Do you remember whether or not, while the machine was lying about the shop, the rolls were upon it, or separated from the rest of the machine?

Ans. As near as I can remember it was nearly all together, with the exception of one roll that was out of it.

Cross-int. 31. Which roll was out of it, the concave or convex?

Ans. I don't remember which roll; I remember seeing it in the shop, as I was passing by; one roll was out of it, which one I can't remember.

Cross-int. 32. Do you remember whether or not either of the rolls had a shoulder, or collar, near their base, before the time when you saw them making heel-casings upon it, about 1872, as you have stated?

Ans. As near as I can remember, there was one on this roll (the concave one).

Cross-int. 33. Can you swear positively on which of the rolls that shoulder, or collar, was at that time?

Ans. As near as I can remember, I couldn't swear positive it was on that roll (the concave one).

Cross-int. 34. Upon reflection can you not remember that there was a space under the base of the concave roll, and a collar or shoulder upon the base of the convex roll, at that time?

Ans. I don't remember the distance; there was a little space, I don't remember exact.

Cross-int. 35. Before you saw them working upon the machine as you say, in 1872, can you state on oath how many bevel-gears there were on it?

Ans. There were four of them, as near as I can remember.

Cross-int. 36. Could you swear positively there were four of them?

Ans. Yes, sir.

Cross-int. 37. Was the machine operated by the crank you now see upon it at the time you saw them operate it?

Ans. It was a crank something similar, not the same one exactly, but something similar.

Cross-int. 38. Will you describe just how that shorter and round lever was arranged upon the machine and constructed, without

361 looking at the Exhibit Machine No. 3, when operated in 1872, as you have stated?

Ans. 'Twas put on something similar to the one that's on there now, as near as I can remember, except that the handle was round. I can't remember exactly about it.

Cross-int. 39. I do not ask you to compare it with the one that's on there now, but to describe it without looking at the exhibit before you.

Ans. I don't know as I can describe it exactly as it was at the time. I never took particular notice of the machine; as I was passing by I merely noticed it.

Cross-int. 40. Then you could not say whether it was attached to the boxes in which the rolls are journaled, or not, could you?

Ans. As near as I can remember it was attached to the box or boxes.

Cross-int. 41. You could not testify positively, could you, whether that lever was in one piece or in two pieces, bolted or screwed together?

Ans. No, sir, I could not.

Cross-int. 42. You could not testify positively, could you, whether that lever was cast or wrought iron?

Ans. As near as I can remember it was wrought iron.

Cross-int. 43. When did you next see the machine, after the time you saw them making heel-casings on it, as you have stated?

Ans. I saw it about the shop there; it was always in the shop until it was fixed over and fetched over here.

Cross-int. 44. Do you not know that the rolls and the lever and some of the gear-wheels, and the crank and shaft, upon Exhibit Machine No. 3, were all made new about 1875, at Bisbee & Endicott's?

Ans. As near as I can remember they were; I can't tell exactly the date?

Cross-int. 45. Have you had any conversation with Mr. Moffitt about what you remember about the machine, and would testify in this case?

Ans. Yes, sir, he spoke to me this morning about the machine. None before that time.

362 Redirect examination:

Int. 46. The casings which you saw made on the machine were made at what time? Give the date as near as you can.

Ans. As near as I can remember it was '72; I can't be exact about it.

Int. 47. Who operated the machine at that time?

Ans. I think Mr. Wise, as near as I can remember.

Int. 48. Was he, or not, at that time at work for Bisbee & Endicott?

Ans. I think he was.

Recross-examination:

Cross-int. 49. Can you swear positively that Mr. Wise was at work for Bisbee & Endicott when you saw them operating the machine in 1872, as you state?

Ans. Yes, sir. As near as I can remember he was. I can't swear positively. It was a good while ago.

G. V. SALISBURY.

Attest: CHAS. F. SLEEPER,
Special Examiner.

363 EVIDENCE FOR DEFENDANTS IN REBUTTAL.

Taken pursuant to the sixty-seventh rule of the Supreme Court of the United States, in equity, as amended, before

THOMAS H. WAKEFIELD,
Special Examiner.

Present, Edward F. Hodges, esq., of counsel for complainant; Thomas L. Wakefield, esq., of counsel for defendants.

Deposition of William C. Wise.

BOSTON, *Feb.* 6, 1879.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. What is your name, and whether you have previously testified in this case?

Ans. William C. Wise. I have previously testified in this case.

Int. 2. Whether or not in the use of the original machine made by you under the direction of Mr. Moffitt, represented by Exhibit Wise Model, you used a wrench of any kind upon the bushings in the block in which the rolls were journaled? And, if so, please describe such wrench and the use of it made by you.

(Objected to as not proper in this stage.)

Ans. I did use a wrench, what we mechanics call a fork-wrench. This wrench, as near as I can remember, was about three-eighths of an inch thick, and from six to eight inches in length. Two places were filed down on each side of these bushings or bearings of the original machine made by me in 1867. The ends of the bushings on which the squares were filed were nearest to the inside edges of the rolls, and
364 I believe that the upper and lower corner of the block of the concave part were chipped off so as to allow the wrench to turn back and forth.

Int. 3. Whether or not the bushings projected above the top of the block in which the rolls were journaled, and to what extent?

(Same objection.)

Ans. Yes, sir; they did project somewhere about three-eighths of an inch, more or less. The wrench was about the same thickness.

Int. 4. Will you describe how the wrench was used on these bushings, or for what purpose?

(Same objection.)

Ans. This wrench was made to open and shut the rolls, as in making the casings I had to open and shut the rolls to get the concave and convex. The wrench was placed on the end of the bushings, or bushing, and raised up and down, so as to open and close the rolls, the same as a monkey-wrench would be applied to a nut of a bolt to unscrew the nut or screw it on.

Int. 5. Whether or not during the process of forming the heel-casings on said machine, as you have stated, that wrench was sometimes permitted to remain on the bushing for the purposes of use, indicated by you, from time to time?

(Same objection.)

Ans. While using that wrench at times, if the wrench stood perpendicular, or a little off of a perpendicular line, it is possible that I left the wrench on, as I had no other particular use for the wrench.

Int. 6. Whether or not the wrench was used generally to a greater or less extent in the construction of each and all the heel-casings made by you?

(Same objection.)

Ans. Yes, sir; the wrench was used all the time in operating the machine.

Int. 7. When and under what circumstances did you first see or know of the angle-iron to which the block in which the rolls were journaled was attached?

(Same objection.)

Ans. The first time I took particular notice of the angle-iron was

when I saw the machine in Bisbee & Endicott's machine-shop, at Mr. Mason's bench or near his bench. This was about the time the machine was rebuilt. I may have seen the angle-iron on the lathe on
365 which it was used for a cross-feed, but don't remember particularly, as I took no particular notice of it.

Int. 8. Whether or not you had ever seen that angle-iron upon the machine, or in connection therewith, or in any other way previous to your leaving Bisbee & Endicott's employ, on or about 1872?

(Same objection.)

Ans. The first time I ever saw the angle-iron, as I have stated before, was about the time the machine was being rebuilt at Bisbee & Endicott's. I cannot say as to the date.

Int. 9. This was after you had left the employ of Bisbee & Endicott, in or about 1872, was it not?

(Same objection.)

Ans. Yes, sir; it was. Some two or three years later, I think.

Int. 10. Have you any personal knowledge as to the machine being taken apart by Daniel Matteson or any other one for the purpose of using some portion of it as a cross-feed of a lathe?

(Same objection.)

Ans. No, sir; I have not any knowledge whatever, that is to say, that the only time that I noticed that the machine had been made use of was when it was placed on this lathe as a cross-feed; this was after I left Bisbee & Endicott's, in 1872.

Int. 11. Had you any knowledge of any parts of said machine being taken off and placed in a keg at any time, either before or after you left the employ of Bisbee & Endicott?

(Same objection.)

Ans. No, sir; I do not know anything about the keg or parts of the machine. As I have stated before, I left the machine in running order.

Int. 12. Whether or not you ever saw the parts of that original machine, except what you have stated you saw used as a cross-feed for a lathe, after you left the employ of Bisbee & Endicott?

(Same objection.)

Ans. No, sir; I did not see the parts after I left Bisbee & Endicott's, only the parts I have already spoken of.

Int. 13. Did you know the room used by Bisbee & Endicott as a store-room, upstairs, where they kept parts of some machines, steel, iron, nuts and bolts, and such like?

366 (Same objection.)

Ans. Yes, sir; I did.

Int. 14. Whether or not after you left Bisbee & Endicott's and were in the employ of Spinney & Melcher you ever had occasion to go to that room, and, if so, under what circumstances?

(Same objection.)

Ans. Yes, sir; I have. I went there a number of times. I cannot say how many times and what it was I went there for. I remember once or twice of going over after some thin pieces of iron, and could not find them in the lower shop. I went to Mr. Matteson, foreman of Bisbee & Endicott's shop, and asked him if he knew where there was anything of the kind. He directed me to this room where they keep all this scrap-iron and old iron, and what is called the store-room. I don't remember now whether I got what I was looking after. My reasons for going to Mr. Matteson were that I did not care about going

into this room without his consent, and did so in all other cases when going to Bisbee & Endicott's for anything I wanted.

Int. 15. Did you ever know of that machine or any part of it being kept in a keg in that store-room?

(Same objection.)

Ans. No, sir; I did not know anything of the kind.

Int. 16. Did you ever take a keg or know of one being taken from that store-room?

(Same objection.)

Ans. No, sir; I did not take anything of the kind nor know of anything of the kind being taken.

Int. 17. While you were in the employ of Spinney & Melcher whether or not you took or caused to be taken certain patterns from the pattern-room of Bisbee & Endicott's, and, if so, what patterns?

(Same objection.)

Ans. Yes, sir; I took a number of patterns belonging to different parts of the machinery under my charge at William F. Spinney & Co.'s place of business.

Int. 18. What was your position and duty in connection with Spinney & Co.'s business?

(Same objection.)

Ans. When I first went there I held the position of machinist
367 and engineer. I was afterwards then put in whole charge of the place of business, acting as superintendent.

Int. 19. Under what circumstances, and by what authority, did you obtain those patterns from Bisbee & Endicott's pattern-room, and what did you do with them?

(Same objection.)

Ans. I took those patterns under my own responsibility, as having charge of the manufacture of rubber counters. It was necessary to have my patterns, or have the patterns belonging to the company, put where I could place my hands on them at any time, at any moment. I put these patterns, or part of these patterns, with some other patterns that were already in the third story of one of the buildings that caught fire when the mill was burned down in 1872, and part of the patterns I put in the blacksmith shop in another building, connected with this one in which I put the patterns in the third story.

Int. 20. How had Spinney & Co. a right to these patterns, if you know?

(Same objection.)

Ans. By the patterns being made and charged to them, as a great many patterns were ordered to be made by Mr. Moffitt and charged to Wm. F. Spinney & Co.

Int. 21. Were Spinney & Co. licensees of Mr. Moffitt, and manufacturing under a contract with him to use certain patents of his, if you know?

(Same objection.)

Ans. In regard to license between John R. Moffitt and William F. Spinney & Co., I know nothing about it. Part of the time while I was with them in Chelsea they were working under his patent of revolving press for making rubber counters, and also a patent of a burlap covering for rubber counters.

Int. 22. Whether or not these patterns obtained by you from the pattern-room were for machinery used by said Spinney & Co. under Mr. Moffitt's said patents?

(Same objection.)

Ans. Yes, sir; they were.

Int. 23. Did you take from said pattern-room, or cause to be taken, any patterns for Exhibit Machine No. 3?

368 (Same objection.)

Ans. No, sir, I did not. I never saw any patterns that belonged to the machine.

Int. 24. What was done with those patterns taken from Bisbee & Endicott's pattern-room? Whether or not they were at any time returned to the pattern-room of Bisbee & Endicott?

(Same objection.)

Ans. Yes, sir. They were returned during the lawsuit between John R. Moffitt and William F. Spinney. They were afterwards, patterns that were not marked John R. Moffitt, returned to the mill of Wm. F. Spinney & Co.

Int. 25. Whether or not all the patterns which were taken from the pattern-room, as you have stated, were so returned to Bisbee & Endicott's pattern-room?

(Same objection.)

Ans. Yes, sir. All of the patterns that were taken from Bisbee & Endicott's pattern-room were returned.

Int. 26. Then none were burned in the fire referred to?

(Same objection.)

Ans. No, sir; they were not.

Int. 27. Have you any knowledge of Mr. Moffitt at any time showing this original machine, made by you for him, to James Tetlow, and explaining to him how it operated?

Ans. No, sir. I have no knowledge whatever of ever seeing Mr. Tetlow at the place at that time.

Noon recess to 2 p. m.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 28. Do you still swear that the original machine made by you in 1867, and as the same was left by you in Bisbee & Endicott's shop, had no angle-iron to which the block in which the rolls were journaled was bolted, and no lever or pressure-bar, and only two gear wheels?

Ans. I do swear that there was no lever or pressure-bar, and

369 no angle-iron on the machine made by me in 1867, and there were only two gear-wheels, and it was in that condition when left by me in 1867 in Bisbee & Endicott's shop.

W. C. WISE.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of Andrew M. Cary.

BOSTON, *Feb.* 6, 1879.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants.

Int. 1. What is your name, and have you previously testified in this case?

Ans. Andrew M. Cary. I have previously testified in this case.

Int. 2. When did you first see or know of the angle-iron, so called,

to which the block is attached, in which the rolls are journaled, like or substantially like the one shown in Exhibit Machine No. 3?

Ans. The first recollection I have of it was when it was put on for a cross-feed on the [illegible] at Bisbee & Endicott's shop.

Int. 3. Do you know Robert H. Peverly, who has testified in this case?

Ans. I do.

Int. 4. Whether or not at any time you turned the crank of that original machine made by Mr. Wise, represented by Exhibit Wise Model, while Mr. Moffitt run a piece of sheet-iron through, between the rolls, to make a heel-casing, in the presence of said Robert H. Peverly?

Ans. No, sir.

Int. 5. Did you ever see Mr. Moffitt put through between the rolls of said machine a piece of sheet-iron, for a heel-casing, in the presence of said Peverly?

Ans. I have no recollection of seeing Mr. Peverly in the shop at the time of putting through the machine any counters or casings—casings I should say instead of counters.

370 Int. 6. Do you know Gustavus V. Salisbury, who has testified in this case?

Ans. I do.

Int. 7. Whether or not you have had any conversation with him recently, and when, in relation to any parts of that old machine made by Mr. Wise, represented by Exhibit Wise Model, and, if so, what did he say?

(Objected to.)

Ans. I had a conversation with him, I should think about a fortnight ago, it might be three weeks, and in the conversation he told me he had been over here on the stand. I asked him some few questions in regard to the machine, and in the conversation he told me he had used one of the rolls to drive out shafts or pieces of iron out of a hole. He said the rolls were lying round carelessly.

Int. 8. Did he say when or during what time it was that these rolls were lying round carelessly?

(Objected to as asking for hearsay.)

Ans. He didn't say any particular time, only it was after these rolls were laid away, as it has been stated; put in the junk-heap.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 9. Do you still swear that the original machine, built by Wise under Moffitt's directions, in 1867, at Bisbee & Endicott's shop, had no lever or pressure-bar, no angle-iron, to which the block in which the rolls were journaled was bolted, and only two gear-wheels, and that it was in such condition when put away, as before stated?

Ans. I do.

Adjourned to Feb. 7, 1879, at 10 a. m.

Resumed Feb. 7, 1879.

Direct examination resumed:

Int. 10. Did you ever say anything to or in the presence of Henry Hughes, who has testified in this case, about giving evidence yourself in favor of Mr. Moffitt in the case of Moffitt vs. Spinney & Melcher?

(Objected to as not being in proper time or in rebuttal to com-
371 plainant's evidence, and as being immaterial and of res inter alias.)

(Counsel for defendants here states that this is a subject which escaped his recollection on the direct examination.)

Ans. I did not.

Int. 11. Did you ever say to, or in the presence of, said Henry Hughes, in substance, that you could have given evidence in favor of Mr. Moffitt in that suit, but you wouldn't do so; but if it was to go against him, you would willingly go, or words to that effect?

Ans. I did not tell him any such thing.

(Same objection.)

Int. 12. Did you ever make the statement set forth in the last interrogatory, or to that effect, in the presence of any one?

Ans. I did not. I have always said that I hoped that if Mr. Moffitt had any right to his patents that he claimed, he would get justice; and if not, he would not gain his case.

Int. 13. Did said Hughes ever ask you in substance if you didn't know that some of them told a lie there in that suit, to which you replied you knew they had against Mr. Moffitt, or words to that effect?

(Same objection.)

Ans. I did not, sir.

A. M. CARY.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of John H. Emery.

BOSTON, *Feb.* 7, 1879.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. What is your name, and have you previously testified in this case?

Ans. John H. Emery. I have previously testified in this case.

Int. 2. Where did you first see the block of the Exhibit Machine No. 3, in which the rolls are journaled?

(Objected to as not in rebuttal.)

Ans. Upstairs in the store-room of the shop of Bisbee & Endicott.

372 Int. 3. Whether that was before or after the said block was used for a cross-feed on the lathe?

(Same objection.)

Ans. Before.

Int. 4. Was it before or after the pieces of said machine were prepared by Mr. Matteson for a cross-feed on a lathe; and if before, how long before?

(Same objection.)

Ans. Before. I should be unwilling to state how long before.

Int. 5. Please state as nearly as you can how long it was before Mr. Matteson commenced using the parts of said machine for a cross-feed; whether directly before or some time previously thereto.

(Same objection.)

Ans. To the best of my ability, it was about a year.

Int. 6. Had that block any other parts of the machine in it, or attached to it, when you first saw it in the store-room, as you have stated?

(Same objection.)

Ans. Yes; there was.

Int. 7. What was in it, or attached to it, at that time?
(Same objection.)
Ans. Two brass boxes, or journals.
Int. 8. Had it either of the rolls in it at that time?
(Same objection.)
Ans. It had not.
Int. 9. Had it either of the spur-gears on it at that time?
(Same objection.)
Ans. No.
Int. 10. Had the block any angle-iron bolted upon it at that time?
(Same objection.)
Ans. No.
Int. 11. When did you first see that block with the angle-iron and gear-wheels arranged together for any purpose?
(Same objection.)
Ans. I am not satisfied to answer that question. I don't understand it—what gear-wheels you mean.

Int. 12. When did you first see that block with an angle-iron
373 and bevel-gear wheels arranged together for any purpose, and for what purpose were they so used?

(Same objection.)
Ans. At the time that Mr. Matteson brought them for a cross-feed.
Int. 13. How many bevel-gear wheels were so used in connection with that block and angle-iron for the cross-feed?
(Same objection.)
Ans. Two.
Int. 14. Do you know when and by whom those two bevel-gears were made?
(Same objection.)
Ans. I do not.
Int. 15. Whether or not you had ever seen them before they were prepared for use in connection with the cross-feed?
(Same objection.)
Ans. I don't recollect of seeing them before that.
Int. 16. When you aided in refitting said machine, after the block was taken off from the cross-feed, as stated in your former deposition, what, if any, gear-wheels did you make?
(Same objection.)
Ans. Two spur-gears, like the two shown on Exhibit Wise Model.
Int. 17. Whether or not these two spur-gears were adapted in their construction to be used with the two bevel-gears which had previously been used on the cross-feed?
(Same objection.)
Ans. As to the construction of that machine, I don't know how to answer that question. They answered the purpose for which Mr. Moffitt intended them.
Int. 18. Did you have those two bevel-gears when you made the two spur-gear wheels mentioned by you?
(Same objection.)
Ans. I did.
Int. 19. Did you make the spur-gear wheels, or either of them, so as to fit to the bevel-gear wheels or either of them?
(Same objection.)
Ans. I did not.
Int. 20. Whether or not you ever saw that block in which the

374 rolls were journaled, attached to, or fastened upon, a wooden horse?

(Same objection.)

Ans. I did.

Int. 21. Did you ever see it so attached to a horse before it had been used for a cross-feed on a lathe?

(Same objection.)

Ans. No.

Int. 22. When you so saw it attached to a horse, was the horse new or old?

(Same objection.)

Ans. A new one.

Int. 23. How long was that after the machine was refitted?

(Same objection.)

Ans. A year, more or less.

J. H. EMERY.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

Deposition of Gustavus V. Salisbury.

BOSTON, *Feb.* 7, 1879.

Direct examination by T. L. WAKEFIELD, Esq., of counsel for defendants:

Int. 1. What is your name, and have you previously testified in this case?

Ans. Gustavus V. Salisbury. I have previously testified in this case.

Int. 2. In your former evidence, given in this case, you state in substance that, as near as you could remember, the lever you saw used on the machine like Exhibit Machine No. 3 was attached to the box or boxes of the machine; will you state more fully for what purpose that lever was used, and how upon the box or boxes of the machine?

(Objected to generally.)

Ans. As near as I can remember it was to bring the rolls to-
375 gether. As near as I can remember it was fastened to the brass bushing, or box as it might be called.

Int. 3. After it was put upon the brass bushing or box, how was it used, and by whom?

Ans. As near as I can remember it was used in a vise, a common vise screwed on the bench. By it, I refer to the block. I can't tell how the lever was used. As near as I can remember it was used by Mr. W. C. Wise.

Int. 4. Whether or not in using the lever by Mr. Wise, in making heel-casings, he opened the rolls or closed them more closely by means of said lever upon the bushing?

Ans. He opened them and closed them, but how the lever was arranged is more than I can tell. I couldn't tell exactly how it was fastened. I have seen him run the casings through between the rolls, and I know he must have had something to squeeze the rolls together to shape the casings.

Int. 5. Did you, at that time, know that the bushings were eccentric, so that by turning them it would separate the rolls or bring them together, as the case might be?

Ans. I did.

Int. 6. Whether or not, when Mr. Wise used said machine, held in a vise as you have stated, there were more than two gear-wheels upon the machine?

Ans. I couldn't say whether there were or not. He used it in various ways in trying it. I never took particular notice of it.

Int. 7. Do you remember the occasion of some parts of said machine being used for a cross-feed in a lathe?

Ans. I do.

Int. 8. Whether or not, previous to such use, you had seen the block in which the rolls are journaled in some pattern-room or store-room of Bisbee & Endicott's shop, without the rolls and journals being in it?

Ans. I saw it in the pattern-shop, that is, where they make patterns, and it had only one roll in it. That is as near as I can remember about it.

Int. 9. How long was this when you saw the block with but one roll in it, previous to the time when the block was used as a cross-feed for a lathe?

376 Ans. I couldn't say. It is a question that I can't recollect when it was used. It might have been a year or nearly that, as near as I can remember. I couldn't tell exactly.

Int. 10. Whether or not you used said rolls or either of them for any purpose after the block was put on as a cross-feed upon the lathe?

Ans. I used portions of that or some other machine. I couldn't swear positively whether it came out of that or some other machine. They were experimenting on different rolls; some they might have made a little too small. There were several of them lying around the shop, and whether they were used in that machine I don't know.

Int. 11. Whether or not the roll or rolls you used were substantially like those shown in Exhibit Machine No. 3 and those shown in Exhibit Wise Model?

Ans. I should say they were something similar to that.

Int. 12. For what purpose did you use them?

Ans. I used them for driving out mandrel or an arbor out of a pulley.

Int. 13. Did you use these rolls frequently, or more than once, for that or a similar purpose?

Ans. I might have used them dozens of times; I couldn't say.

Int. 14. Whether or not you used one or more of those rolls previous to the block being used for a cross-feed on a lathe?

Ans. I don't remember of using them. I might have used them.

Int. 15. How many of those rolls can you state positively that you saw or used about the shop?

Ans. I couldn't tell how many there were. They were turning up pieces of them perhaps all the time he was working on them. They would get one partly turned and it might be wrong and he would throw it one side.

Int. 16. How many of those rolls can you state positively that you saw or used about the shop after the block was used as a cross-feed on the lathe?

Ans. I can remember the one that I used. There might have been more of them.

Int. 17. Can you state positively there were more than two of those rolls about the shop after the block was used as a cross-feed?

Ans. No. I cannot.

377 Int. 18. Have you any doubt that the roll you used, after the

block was used for a cross-feed, was one of those originally used in the machine by Mr. Wise?

Ans. I couldn't say whether it was or was not. It might have been.

Int. 19. Can you state positively that there was any such roll there in the shop after the block was used for a cross-feed, except those that had been used by Mr. Wise in making heel-casings?

(Objected to.)

Ans. I can't say whether there was or not. I don't remember. There might have been. That is as near as I can remember it.

Int. 20. When the machine used as you have stated for making heel-casings was held in the vise for that purpose, had it any angle-iron attached to the block like that shown in Exhibit Machine No. 3?

Ans. I think it had an angle-iron. Whether it was on at the time that he had it in the vise I couldn't say.

Int. 21. He could not well use that machine with the angle-iron upon it in his vise upon the bench, could he?

Ans. I don't know whether he could or not. I should think he could.

Int. 22. Can you swear positively that you ever saw that angle-iron, or substantially the same as that now shown on Exhibit Machine No. 3, attached to the block previous to the block being used as a cross-feed on a lathe?

Ans. No; I can't swear positively, but I think it was as near as I can remember.

Cross-examination by EDWARD F. HODGES, Esq., of counsel for complainant:

Cross-int. 23. When you saw the sheet-iron blanks made into heel-casings by Mr. Wise, as you have testified, they were formed by being run through the rolls once only, were they not?

Ans. I couldn't say. He might have run them through more.

G. V. SALISBURY.

Attest: THOS. H. WAKEFIELD,
Special Examiner.

378 The following is the opinion of the court in accordance with which the decree dismissing the bill of complaint was entered in this cause April 23, 1879.

379 Circuit court of the United States, district of Massachusetts, October term, A. D. 1878, to wit, April 23, 1879.

JOHN R. MOFFITT
v.
SAMUEL B. ROGERS ET AL. } In equity.

OPINION OF THE COURT.

LOWELL, J.:

The complainant obtained a patent in 1872 for an improvement in heel-stiffeners or counters for boots and shoes. In his specification he describes a roller shaped like the heel of a boot or shoe, set on a swing-frame and having a reciprocating or continuous rotary motion. This roller he calls a "former," and beneath it he places a roller having a profile, the converse of and conforming to that of the "former."

380 The mode of making a counter as described is to place a piece of

leather of suitable size and shape (usually called in the record a counter-blank) centrally upon the "former," which is then brought down by a treadle, and the leather is rubbed or rolled between the upper and lower rollers as long as may be necessary to give it the shape of a counter. Two additional or auxiliary rollers are shown in one of the drawings, and are mentioned in the specification.

The defendants work under a patent granted to one Coté in 1874, in which a machine is described consisting of a spherical or spheroidal roller or head rotating concentrically upon a shaft in combination with a stationary mould made concave in conformity with the head; the patent says that the head may be grooved to facilitate its grasp of the leather. The leather is drawn through between the head and the
381 mould by the revolution of the head. The Coté machine turns out counters of a spherical contour, but they are found to be useful, though they require to be brought to the exact shape of a heel by another operation. This machine has gone into use and has proved of great advantage to the manufacturers, and the question to be decided is, which of these parties really invented the Coté machine.

The plaintiff is right, I think, in his contention that the Coté machine makes counters by rolling and rubbing, and not by moulding; and therefore the machines as described have a similar mode of operation. But the defendants insist that the Moffitt machine was not a practical working device, and would never have developed the utility of Coté's machine, and that the latter is not a mere modification or improvement of Moffitt's, but the first actual operative invention.

There is no doubt that Moffitt had the idea of a machine to
382 make counters by rolling and rubbing, as distinguished from moulding. He described a machine which he supposed would accomplish this result, but had not at that time proved it by experiment. About the time that Coté's patent came out Moffitt made experiments and built machines. It seems probable that Coté intended and expected to avoid the Moffitt patent, and that Moffitt intended and expected his reissue to cover the Coté machine; and the question is which has succeeded.

Upon the evidence I find the real meritorious invention was Coté's; the plaintiff had the idea, but had not reduced it to practice, so as to be able to describe a machine which any person skilled in the art might construct and make satisfactory counters. It is true that if instead of the roller or rollers of Moffitt you make a stationery mould, so called, though it does not operate like a mould, corresponding to the
383 forming roller, and if you crease or roughen the roller so that it will pull the leather through this stationary mould, you have the Coté machine, which is a very powerful and thoroughly working device; but it seems to require something more than ordinary mechanical skill to pass from the one to the other and without some such changes; the rollers of Moffitt will not make merchantable counters, as a practical every day business, in a machine such as he describes.

From this point of view the difference between a heel-shaped roller and a spherical one, though apparently slight, is not unimportant. The attempt of Moffitt was to make a perfect counter by one operation. A heel-shaped roller would do this, if it did anything satisfactory, while a spherical roller makes an unfinished counter, which, to be sure, turns out to be of practical utility, because it works so rapidly and efficiently that the artisan can afford to apply another machine
384 or operation to bring it to exact shape. The perfect counter has

not yet been made practically by one operation. The counter which is nearly made is Coté's.

Finding these facts to be so, I must either construe the claims of the plaintiff's reissued patent to include only a machine with rollers or hold them void as claiming more than he has described. Either way the defendants must prevail.

Bill dismissed, with costs.

385 UNITED STATES OF AMERICA,
Massachusetts District, ss:

I, John G. Stetson, clerk of the circuit court of the United States for the first circuit and district of Massachusetts, certify that the foregoing is a true copy of the record and of all proceedings in the cause of John R. Moffitt, complainant, v. Samuel B. Rogers et al., defendants, in said circuit court determined, including the opinion of the court in said cause.

In testimony whereof I hereunto set my hand and affix the seal of said circuit court at Boston, in said district, this tenth day of September, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States the one hundred and fourth.

[SEAL.] JOHN G. STETSON, *Clerk.*

386, 387 *Bond to party on appeal.*

Know all men by these presents that we, John R. Moffitt, of Chelsea, in the district of Massachusetts, principal, and Edwin H. Sampson, of Boston, in said district, and James Endicott, of said Chelsea, sureties, are held and firmly bound unto Samuel B. Rogers, Stephen Moore, and Homer Rogers, all of Sudbury, in said district, in the full and just sum of one thousand dollars, to be paid to the said Samuel B. Rogers, Stephen Moore, and Homer Rogers, their certain attorney, executors, administrators, or assigns; to which payment, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, by these presents. Sealed with our seals and dated the eighth day of May, in the year of our Lord one thousand eight hundred and seventy-nine.

Whereas lately at a circuit court of the United States within and for the district of Massachusetts, in a suit in equity depending in said court between said John R. Moffitt, complainant, and said Samuel B. Rogers, Stephen Moore, and Homer Rogers, defendants, decree was rendered against the said complainant, and the said complainant having obtained an appeal to remove the said cause to the Supreme Court of the United States to reverse the decree in the aforesaid suit, and a citation directed to the said defendants, citing and admonishing them to be and appear at a Supreme Court of the United States to be holden at Washington on the second Monday of October next:

Now the condition of the above obligation is such that if the said complainant shall prosecute his said appeal to effect, and answer all damages and costs if he fail to make his plea good, then the above

obligation to be null and void; otherwise to remain in full force and virtue.

JOHN R. MOFFITT. [L. S.]
EDWIN H. SAMPSON. [L. S.]
JAMES ENDICOTT. [L. S.]

Signed, sealed, and delivered in presence of—
GEO. H. DUDLEY.
RUFUS F. BISBEE.

Approved.

T. L. WAKEFIELD,
Of Counsel for Def'ts.

A true copy of the bond taken by the judge at the time of allowing the appeal named in said bond, which bond is on file in the office of the clerk of the circuit court of the United States for the first circuit and district of Massachusetts.

Attest:

JOHN G. STETSON,
Clerk U. S. C. C., Mass. Dist.

(Indorsement on cover:) No. 291. John R. Moffitt, appellant, vs. Samuel B. Rogers, Stephen Moore, and Homer Rogers. Massachusetts C. C. U. S. Filed 4th October, 1879.

FILED
APR 25 1902

Supreme Court of the United States.

No. 291.

JOHN R. MOFFITT, APPELLANT,

v.

SAMUEL B. ROGERS ET AL., APPELLEES.

EXPLANATORY OF APPELLANT'S EXHIBITS.

Moffitt reissue, C.F.S., Notary Public.
Original dated May 21, 1872.

Coté reissue No. 1, C.F.S., Notary Public.
Original dated February 24, 1874 (p. 8, Rec.).

Coté reissue No. 2, C.F.S., Notary Public.
Original dated June 2, 1874 (p. 8, Rec.).

Coté file, T.H.W., Exr.
File wrapper and contents of Coté patent dated February 24, 1874 (p. 27, Rec.).

Exhibit Rejection, T.H.W., Exr.
Official letter of rejection of Coté application from Commissioner of Patents, showing anticipation (p. 29, Rec.).

Counters Nos. 1, 2, 3, 4 and 5, T.H.W., Exr.
Put in on cross-examination of defendants' expert (p. 23, Rec. cross-int. 56).

Exhibit Machine No. 3.
Appellant's 1867 machine (p. 31, Rec.).

Moffitt No. 1, No. 2, No. 3, C.F.S., Spl. Exr.
Nos. 1 and 2, metallic counters, and No. 3, casing made in 1867 on Exhibit Machine No. 3 (p. 32, Rec. int. 9).

Exhibit Machine No. 7.
For reshaping (p. 32, Rec. int. 11).

Moffitt No. 4, C.F.S., Spl. Exr.
Copy of account, expenses incurred in development (p. 33, Rec. int. 21).

5. C.F.S., Spl. Exr.
pellant's patent of 1876 (p. 35, Rec. int. 33).

6, C.F.S., Spl. Exr.
of account in developing the new art (p. 35, Rec. ans. to int. 36).

o. 6.
wings (p. 36, Rec.).

. 7 and No. 8, C.F.S., Spl. Exr.
tionary supports made and used by appellant in 1873 (p. 41, Rec.).

s. 8, 9, 10, 11, 12, 13, 14, 15, C.F.S., Spl. Exr.
terns, machinery and discs made in 1873 (p. 41, Rec.).

. 16, C.F.S., Spl. Exr.
me and former of machine made in 1874 (p. 41, Rec.).

o. 1.
pairs of counters made on the heel-shaped former in machine Exhibit Machines Nos. 1 and 2, without the speeded support (p. 42, Rec.).

o. 2, C.F.S., Spl. Exr.
pairs of counters made in the same way as the preceding exhibit, but with a speeded auxiliary support (p. 42, Rec.).

o. 3, C.F.S., Spl. Exr.
pairs of counters made on same machine as preceding exhibit, but with a counter-former circular in cross-section (p. 42, Rec.).

o. 4, C.F.S., Spl. Exr.
pairs of counters made with the same former as the preceding exhibit, but with the auxiliary support speeded (p. 42, Rec.).

o. 5, C.F.S , Spl. Exr.
pairs of counters made on the 1867 machine, Exhibit Machine No. 3 (p. 42, Rec.).

o. 6, C.F.S., Spl. Exr.
pairs of counters made on Machine No. 4, with the heel-shaped former. This machine is the one represented in figs. 4 and 5 of appellant's reissue (p. 43, Rec.).

o. 7, C.F.S., Spl. Exr.
o blanks like those from which the preceding exhibits, Hughes Nos. 1 to 6, were made (p. 44, Rec.).

No. 4, C.F.S., Spl. Exr.
the machine shown in figs. 4 and 5 of appellant's reissue drawing (p. 45, Rec.).

o. 1, C.F.S., Spl. Exr.
mples of counters made on Machine No. 4 by Spencer (p. 45, Rec.).

Machines Nos. 1 and 2, C.F.S., Spl. Exr.

Is the machine shown in figs. 1, 2 and 3 of appellant's reissue drawings (p 45, Rec.).

Spencer No. 2, C.F.S., Spl. Exr.

Two samples of counters made by Spencer in Machines Nos. 1 and 2 (p 45, Rec.).

Spencer No. 3, C.F.S., Spl. Exr.

Counter made by Spencer on Machines Nos. 1 and 2, with heel-shaped former (p. 45, Rec.).

Spencer No. 4, C.F.S., Spl. Exr.

Counters made by Spencer on Machines Nos. 1 and 2, using each form of former, and with roll speeded (p. 46, Rec.).

Machine No. 3, C.F.S., Spl. Exr.

Moffitt's 1867 machine. Already referred to, but offered in evidence on page 46, Record.

Spencer No. 5, C.F.S., Spl. Exr.

Counters made by Spencer on Machine No. 3 (p. 46, Rec.).

Heel-shaped former for Machines Nos. 1 and 2, C.F.S., Spl. Exr.

Page 48, Record.

Spencer Nos. 6 and 7, C.F.S., Spl. Exr.

Two sheets of drawings (p. 50, Rec.).

Spencer No. 8, C.F.S., Spl. Exr.

Spencer diagram (p. 55, Rec.).

Machine No. 5 and Machine No. 6, C.F.S., Spl. Exr.

Moffitt machines which have been largely used (p. 56, Rec.).

Spencer model, C.F.S., Spl. Exr.

Illustrating more guiding lines (p. 72, Rec.).

Spencer No. 9, C.F.S., Spl. Exr.

Counters made by Spencer on Exhibit Machine No. 4 (p. 102, Rec.).

Exhibit Hill, C.F.S., Spl. Exr.

Sample of counter used in 1872, showing the state of the art at that time (p. 108, Rec.).

Rubber counter, C.F.S., Spl. Exr.

Made by appellant in 1867 (p. 113, Rec.).

Nichols Nos. 1, 2, 3 and 4, T.H.W., Exr.

Counters rolled in the Nichols sole-rolling machine (p. 162, Rec.).

Exhibit Peverly, C.F.S., Spl. Exr.

Piece of sheet-iron illustrating what Peverly saw in 1867 (p. 196, Rec.).

Exhibit Peverly No. 2, C.F.S , Spl. Exr.

Piece of sheet-iron also used in illustration (p. 197, Rec.).

Supreme Court of the United States.

JOHN R. MOFFITT, APPELLANT,

v.

SAMUEL B. ROGERS ET AL., APPELLEES.

BRIEF FOR APPELLANT.

STATEMENT OF THE CASE.

Bill in equity. Appellant John R. Moffitt, who is plaintiff in the Court below, brought a suit on reissued Letters Patent No. 6162, dated November 23, 1874, for an "Improvement in the manufacture "of heel-stiffeners for boots and shoes." see p 118

The appellees Samuel B. Rogers and others filed an answer denying the infringement of said Letters Patent, alleging that the invention described and claimed in said reissue Letters Patent is of no utility, and that machines constructed in accordance therewith are not practically operative, and that the reissue is therefore invalid.

Defendants' answer also alleged that the reissue Letters Patent are not for the same invention as the original Letters Patent, and that said reissue is unauthorized by the statutes, and is therefore void.

Defendants deny that the appellant was the original and first inventor of the improvement patented in said reissue No. 6162, and allege the prior patent of Joel Blood, of September 13, 1870, and the prior invention by one Nichols, in 1851, and other inventions set out in the answer, but which were not pressed upon the attention of the Court below.

The Circuit Court for the District of Massachusetts dismissed the

x Appeal granted May 21. 1872 see p 119

appellant's bill, and filed an opinion deciding that the appellees' machine did not infringe the appellant's patent.

ASSIGNMENT OF ERROR.

Appellant assigns for error, in the findings of the Court below, the decision that the appellees do not infringe the appellant's patent.

The questions raised by the pleadings and proofs, and which would properly be presented to this Court on an appeal, are —

I. Is the reissued patent valid?

II. Is the appellant the original and first inventor of the improvement patented?

III. Did the reissued Letters Patent describe a practical operative machine?

IV. Do the appellees infringe the appellant's reissued Letters Patent No. 6162?

1. The validity of appellant's reissued Letters Patent No. 6162:

A comparison of the specification annexed to original Letters Patent No. 127,090, found on page 118 of the record, with the specification annexed to the reissued Letters Patent, at page 120 of the record, will show that the invention is the same in both the original and reissue.

That the description in the body of the specification is substantially the same, and that the claims of the reissue are no broader in scope than those of the original Letters Patent.

For the convenience of the Court, the specification of the original and reissued Letters Patent are printed in parallel columns:

ORIGINAL.	REISSUE.
To all whom it may concern:	*To all whom it may concern:*
Be it known that I, JOHN R. MOFFITT, of Chelsea, *County of Suffolk and* State of Massachusetts, have invented an Improved Heel-Stiffener	Be it known that I, JOHN R. MOFFITT, of Chelsea, State of Massachusetts, have invented an Improved Heel-Stiffener

or Counter for Boots and Shoes, and a new Process and Machinery for making the same; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

In "molding" to shape ready-made counters or stiffeners for heels of boots and shoes made of various materials, but usually of waste bits of leather, a difficulty exists, by reason of the peculiar shape required, in getting an equal or sufficient pressure upon all parts of such counter, so as to *get* uniform hardness throughout; and also a further difficulty in getting a true and proper permanent form throughout all parts, because the material will differ in character in different parts of the same counter, some of it, especially in leather, being of a more spongy nature than other parts. This difference or lack of homogeneity prevents an uniform solidity, and precludes the true preservation of the shape which a mold may impart.

The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any molding proces, but *also* to make *a new article of manufacture; viz.*, a "rolled" counter, prepared, solidified, and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a *new as well as* better article, and admitting of producing the same from material hitherto found too intractable, such as leather-board, sheet metal, &c. Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving "former," A, devised by me, of a shape adapted to give the desired shape to the counter, and set *eccentrically* on a shaft, B, the shaft being arranged to have a continuous

or Counter for Boots and Shoes, and a new Process and Machinery for making the same; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

In molding to shape ready-made counters or stiffeners for heels of boots and shoes made of various materials, but usually of waste bits of leather, a difficulty exists, by reason of the peculiar shape required, in getting an equal or sufficient pressure upon all parts of such counter, so as to insure uniform hardness throughout; and also a further difficulty in getting a true and proper permanent form throughout all parts, because the material will differ in character in different parts of the same counter, some of it, especially in leather, being of a more spongy nature than other parts. This difference or lack of homogeneity prevents a uniform solidity, and precludes the true preservation of the shape which a mold may impart.

The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any molding process, but to make a rolled counter, prepared, solidified, and uniformly hardened and set to shape by a rolling pressure, such rolling action producing a better article, and admitting of producing the same from material hitherto found too intractable, such as leather-board, sheet metal, &c. Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving former, A, devised by me, of a shape adapted to give the desired shape to the counter, and set on a shaft, B, the shaft being arranged to have a continuous

or a reciprocating rotary movement, either by hand or by power, as desired. Beneath this "former" I place *a roller, C*, having a profile

as shown, the converse of, and conforming to, that of the "former," *the shaft of the roller having its bearings in the main frame D.* The shaft of the "former" has its bearings in a swing-frame, E. F is a treadle-strap, whereby the swing-frame may be pulled down to give any required degree of pressure, and which also permits the *eccentric* former to rise and fall as in its movements it rides and rolls over the surface of the counter, the counter-piece being placed centrally upon the "former," and being rubbed and rolled as well as squeezed between them while being brought to shape.

If leather-board or pulpy material be used, the roll and the "former" should be of metal, in order to give the counter the proper firmness throughout its whole body or surface.

If leather or bits of leather pasted or united together (commonly known as "pancake"), be used, then the roll or "former," or both, should be of rubber or other material capable of yielding to some extent to adapt itself to the different thickness of the leather, but not yielding enough to prevent the proper compression and compacting of the leather.

In operating the apparatus, the piece for the counter, being properly cut or prepared, is placed on the former, and by hand or machinery, a reciprocating rotary motion of something less than an entire revolution, is given to its shaft, so as to bring the most or all of the operating surface of the former into action.

This action is continued as long, and the amount of pressure given should be as great, as the character of the material being operated upon

or a reciprocating rotary movement, either by hand or by power, as desired. Beneath this former I place supports or rollers, C, C^1, and C^2 (see figs. 4 and 5), each

having a profile as shown, the converse of, and conforming to, that of the former.

The shaft of the former has its bearings in a swing-frame, E. F is a treadle-strap, whereby the swing-frame may be pulled down to give any required degree of pressure, and which also permits the former to rise and fall as in its movements it rides and rolls over the surface of the counter, the counter-piece being placed centrally upon the former, and being rubbed and rolled as well as squeezed between them while being brought to shape.

If leather-board or pulpy material be used, the roll and the former should be of metal, in order to give the counter the proper firmness throughout its whole body or surface.

If leather or bits of leather pasted or united together (commonly known as "pancake"), be used, then the roll or former, or both, should be of rubber or other material capable of yielding to some extent to adapt itself to the different thickness of the leather, but not yielding enough to prevent the proper compression and compacting of the leather.

In operating the apparatus, the piece of the counter, being properly cut or prepared, is placed on the "former," and by hand or machinery, a reciprocating rotary motion of something less than an entire revolution, is given to its shaft, so as to bring the most or all of the operating surface of the former into action.

This action is continued as long, and the amount of pressure given should be as great, as the character of the material being operated upon

or the exigencies of the case may demand.

The "former," as will be seen, projects further from its axis on one side than on the other, so as to conform nearly to the general form of the curves of the inside of a shaped counter.

This gives a rolling action, in addition to the squeezing, over the whole body of the counter.

The end *g* of the former need not be a plane, as shown in fig. 1, but instead may be rounded as at its opposite end, as shown in fig. 3, so that it may be continuously revolved and in either direction. *In such case I prefer to place the shaft through its centre or equally distant from both its ends.*

Instead of a single roll a pair of auxiliary rolls may be used, as shown in fig. 4, one on each side of the single one, and each having a yielding support by means of a spring or weight, whereby it may, as the former revolves or moves, be forced up against the material being rolled to shape, and serve to hold it close against the former, the weights or springs allowing such auxiliary rolls to recede as the motion of the former may demand.

The roll or rolls may be made up, if desired, of a series of rings, instead of being solid.

or the exigencies of the case may demand.

The end *g* of the "former" need not be a plane, as shown in fig. 1, but instead may be rounded as at its opposite end, as shown in fig. 3, so that it may be continuously revolved and in either direction. Each of the rolls C^1, C^2, has a yielding support by means of a spring or weight, whereby it may, as the "former" revolves or moves, be forced up against the material being rolled to shape, and serve to hold it close against the "former," the weights or springs allowing such auxiliary rolls to recede as the motion of the "former" may demand.

The roll or rolls may be made up, if desired, of a series of rings, instead of being solid.

My rolling action operates upon the material being formed, in a manner quite different from a mere squeezing and crimping action. By my method of treatment the whole surface is rolled, and consequently, as nearly as may be, equally treated; and the particles of the blank are not simply pressed by a pressure in only one or two lines of direction, whereby a part of the stock shall be greatly compressed and the greater part of it compressed but little, if any, but, on the contrary, the rollers act on all parts coming betw[illegible]en

their peripheries, and in addition, give a rubbing and drawing action upon the heel-seat or flange, and around the angle or curve which it makes with the body of the counter.

The effect of this is, that as the former turns it presses forward the particles which compose the material, tends to alter their relative positions, and to give them a new set by the progressive pressure imparted to them; and the repeated rollings, whether continuously in the same direction, or first in one and then in the other direction, tend to intensify and confirm this set, resulting in the production of a counter superior to any heretofore known to me, and having new characteristics, such as greater fixedness of shape, greater smoothness of surface, more uniformity of character, and compactness throughout, and the almost entire avoidance of perceptible puckers or crimps.

Fig. 6 represents a shaped stiffener for a boot or shoe heel.

I claim, —

1. In a machine for making counters or stiffeners for boots and shoes, a turning or revolving former, in combination with mechanism for holding and shaping the blank over it.

2. The revolving or turning counter-former A, in combination with a supporting roll or rolls, for rolling, or for rolling and flanging blank-stock into heel-stiffeners, substantially as shown and described.

3. The process described of forming the heel-seat of a counter by means of a former having a motion about a centre, and which gives to the heel-seat a drawing or rubbing action against a flange or bearing-surface, in addition to the rolling action.

JOHN R. MOFFITT.

Witnesses:

GEO. T. SMALLWOOD, Jr.

JOHN ROBY.

Fig. *5* represents a shaped stiffener for a boot or shoe heel.

I claim, —

1. The described apparatus for rolling to shape heel-stiffeners or counters.

2. I also claim as a new article of manufacture, heel-stiffeners or counters shaped and compacted by a rolling action, as described.

3. I also claim the process herein described of shaping and setting to shape heel-stiffeners or counters by rolling, as distinguished from molding.

JOHN R. MOFFITT.

Witnesses:

W. Bradford.

William Fitch.

The reissue was obtained within two years and four months after the original patent was granted.

In the reissue the second claim of the original patent was omitted, as covering that of which the appellant was not the original and first inventor. He had the right to surrender his patent for disclaimer under the statute, and to describe his invention more accurately in other respects than he had done in the original. The invention as claimed in the reissue is the same as was shown in the original model, drawing and original specification, and the appellant was entitled to this reissue.

Seymour v. *Osborne*, 11 Wall. 516.

2. Appellant, Moffitt, was the original and first inventor of the invention set forth in the claims of his reissue patent.

The prior machine of Nichols was for rolling sole leather.

The testimony relating to it will be found pages 159 and 169 of the record.

3. Did the appellant's reissue Letters Patent describe a practical operative machine?

This is established by the testimony of Moffitt (p. 35, int. 38; p. 36, ints. 39, 40), Spencer (pp. 45, 46), and Hughes (pp. 42, 43).

These witnesses practically operated upon a machine constructed in accordance with the appellant's reissue Letters Patent, and testify that it is a practical operative machine, and they produce specimens of the work done upon it.

The witness Hill testifies that the counters produced by witness Hughes and the other witnesses above named are merchantable counters (p. 108).

Seymour v Osborne 11 Wall. 548.

4. The appellees have infringed appellant's reissue patent No. 6162. The appellees admit that the machine used by them is such as is described in Coté's reissued patents Nos. 5896 and 7356. These patents will be found printed in full in pages 122 and 123 of the record. A working machine of the appellant's is also in evidence, marked "Defendants' Exhibit Coté Machine."

A comparison of this machine with the appellant's reissue Letters Patent 6162 will show that the appellees' machine infringes the first, second and third claims of appellant's patent.

These claims are as follows : —

1. In a machine for making counters or stiffeners for boots and shoes, a turning or revolving former, in combination with mechanism for holding and shaping the blank over it.

2. The revolving or turning counter-former A, in combination with a supporting roll or rolls, for rolling, or for rolling and flanging blank stock into heel-stiffeners, substantially as shown and described.

3. The process described of forming the heel-seat of a counter by means of a former having a motion about a centre, and which gives to the heel-seat a drawing or rubbing action against a flange or bearing-surface, in addition to the rolling action.

The infringement of these claims is pointed out by the expert Spencer as follows (pp. 8 and 9 of the record, ints. 5 and 6) : —

"*Int.* 5. Compare the machines described in the Moffitt and Coté "reissues as to their substantial identity or difference, stating fully "your reasons for any opinions you may express.

"*Ans.* The machines described in the Moffitt and Coté reissues are "for the manufacture of heel-stiffeners for boots and shoes, and con- "sist of a rotary former resting upon a proper support, the former "and the support having a contour substantially identical in shape, "so that the former will shape the inner surface of the counter and "its support will shape the outer surface as the counter-blank is "passed between the two.

"The concavity of the support and the convexity of the former are "substantially uniform in shape, so as to give to the counter formed "between them nearly a uniform thickness in its various parts.

"In the machine described in the Moffitt reissue the support for "the former consists of three rollers, upon which the former rests "when a counter is not interposed, and the former comes in contact "with each of these rollers in a single line on their surfaces.

"In the Coté machine the support is a single concave bed conform-

"ing in shape to the former, and this concave surface represents the "filling up of the spaces between the lines of contact of the former "and the rollers in the Moffitt machine; in other words, the Coté "machine has a continuous supporting surface in one solid block, "while in the Moffitt machine the support is by the three rollers, "having surface lines conforming to those of the former.

"A counter passing through the Moffitt machine is at three differ- "ent lines of its surface pressed between the former and its support, "while in the Coté machine it is pressed, more or less, at all points; "that is, it is pressed in portions of its surface lying between the "lines of contact which I have described as occurring in the Moffitt "machine.

"Moffitt's former is described as having a reciprocating rotary "motion, or that it may be continuously revolved in either direction, "while the Coté machine is intended to have a revolution of the "former in one direction continuously. The action is the same in "either case, the counter being pressed and rubbed between the "former and its support.

"In each machine there is formed a space between the end of the "former and the corresponding part of its support, into which a por- "tion of the counter-blank is forced to form a flange thereon, which "flange is turned inward, as shown in fig. 6 of Moffitt's drawing. "Each of these machines provides for a degree of adjustment between "the former and its support; the Moffitt patent showing a swing- "frame to which the former is attached by its bearings, and in the "Coté machine two adjusting screws are shown, and also an elastic "cushion, which may or may not be used.

"The former in the Coté machine is represented as cylindrical in "cross-section, and hence but a slight adjustment is necessary between "it and its supporting bed. The Moffitt former, having more of a "heel form, or being longer in one diameter than in another, requires "a greater degree of adjustment if it is made to revolve; but with "the reciprocating rotary motion of something less than an entire "revolution, of which he speaks, the degree of adjustment will be "materially lessened.

"From what I have said, it will be seen that, although differing in

"form somewhat, the construction and operation of the two machines "is substantially identical. The essential parts of each are the same; "namely, the former having a motion about a centre and a proper "support for such former, and these parts so mounted with relation "to each other as to permit a counter-blank to be passed between "them, by which means the counter is pressed and rubbed into shape "and a flange formed thereon, the former giving the required shape "to the interior of the counter, and the support shaping the outer "surface thereof, pressing and rubbing the same to give a permanent "set of the shape desired. Each of these machines embraces 'a "'turning or revolving former, in combination with mechanism for "'holding and shaping the blank over it;' the differences in con- "struction are of minor importance.

"*Int.* 6. Please make the same comparison as to the processes "described in the two patents, and especially referred to in the third "clause of claim of the Moffitt reissue and the fourth clause of claim "in the Coté reissue No. 2.

"*Ans.* The processes described in the two patents under consid- "eration consist in passing between the former and its support a "properly prepared blank or piece of the material to be bent into "the desired shape, and when so bent, to be compacted by rubbing "and rolling so as to permanently retain the heel form which had "been given it. The operation of each machine is such as to give "to the outer surface of the counter a much greater degree of solidity "than it possessed before treatment in the machine, and this solidity "or compactness of the surface is due both to the pressing and rub- "bing to which it is subjected. The formation of the flange upon "the blank in each case, in its passage through the machine, and the "folding and crimping of this part of the stock, and the subsequent "rubbing which it undergoes before it leaves the machine, tend in "each case to set the shape into a permanence of form which is "very important in this manufacture.

"In the Coté machine there is a greater degree of friction upon "the outer surface of the counter than in the Moffitt machine, "because of the rotation of Moffitt's supporting rollers; but these "rollers, being of different diameters in different portions of their

"length, necessarily give more or less of a rub to the surface of the "counter. The Coté machine would evidently do its work more "rapidly, so far as the rubbing action is concerned, but aside from "the question of speed, they would work with equal efficiency.

"There is a substantial identity in the processes described in the "patents and claims referred to, due to the similarity of the machines "in construction and operation, as well as to the similarity of the "material operated on. The steps taken are the same, substan- "tially, in each case; follow each other in the same order; and "result in the production of a similar article."

GEORGE HARDING,
WM. A. MACLEOD,
Counsel for Appellant.

SUPREME COURT U.S.
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SUPREME COURT OF THE UNITED STATES.

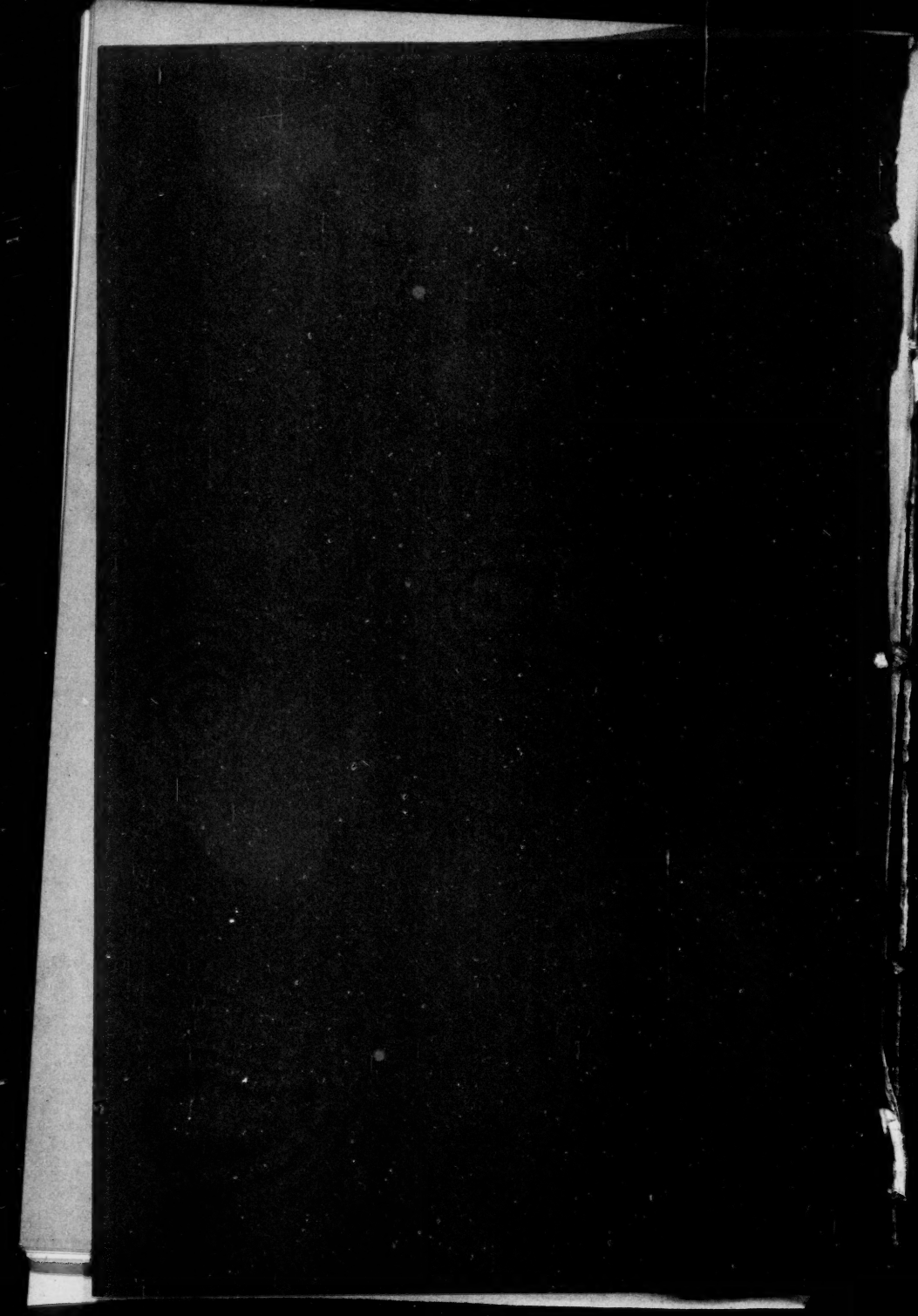
JOHN R. MOFFITT, APPELLANT,

v.

SAMUEL B. ROGERS, STEPHEN MOORE AND HOMER ROGERS.

ARGUMENT FOR APPELLANT.

George Harding
WM. A. MACLEOD,
of Counsel for Appellant.



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ARGUMENT FOR APPELLANT.

The appellant is the inventor of a machine having a rotating counter-former for forming the counters or stiffeners which are used in the manufacture of boots or shoes, and for which Letters Patent No. 127,090, dated May 21, 1872, were granted to him, and reissued November 23, 1874, No. 6162, being the Letters Patent in suit. The bill of complaint alleges infringement of the said patent No. 6162, granted to the appellant for a new and useful improvement in the manufacture of heel-stiffeners for boots and shoes.

The defendants appeared and answered, denying, among other things, that they infringed the patent, and alleging that the invention described and claimed therein is of no utility, that machines constructed in accordance therewith are not practically operative, and that the reissue is invalid. The defendants admit (see page 8 of the Record) that they manufacture and use machines substantially such as are described in the reissued Letters Patent granted to Louis Coté for machines for forming boot and shoe stiffeners, No. 5896, reissued October 24, 1876 (see page 120 of the Record). The validity of the patent in suit, the utility and novelty of the invention, and the respondents' infringement, are essentially all the points in dispute. Proofs were taken upon the issues as raised by the pleadings, and the case came on for argument upon such pleadings and proofs before his Honor Judge LOWELL, who, after considering the same, dismissed the bill, and filed an opinion (see page 240 of the Record).

Previous to 1872 there were no counters in the market of any kind whatsoever, except the rubber counters, the manufacture of which Mr. Moffitt had developed, and what were

known as flat counters, the latter being simply what are now termed counter-blanks, that is, flat strips of leather cut to the proper shape, and ready to be lasted into a boot or shoe to form a counter. *Moffitt* (Rec. p. 33):

Int. 19. What kind of counters were in the market during the time from 1866 up to the end of the year 1871?

Ans. I knew of no shaped counters in the market until the rubber counters were introduced. There were none but what were known as flat counters, except the rubber counters.

Mr. Moffitt found that although he had succeeded in making a very good counter of rubber, this material was not particularly adapted for the manufacture of counters to be used in the lighter and better grades of boots and shoes, and that for the largest classes of work the manufacturers much preferred counters made from leather or leather-board, which latter in the mean time had come to be used for many purposes as a substitute for leather. He therefore continued his experiments with a view to producing a perfect counter from these materials, fully shaped and ready to be put at once into a boot or shoe. As a result of these experiments, he filed an application in the Patent Office for a patent for a machine and process for the manufacture of leather or leather-board counters, and in May of 1872 the original of the patent in suit was granted to him.

THE ORIGINAL AND FIRST INVENTOR.

An attempt is made by the defendants on pages 159 *et seq.* of the record, by the testimony of John W. Nichols, and the introduction through him of a sole-rolling machine, which is marked "Exhibit Nichols Machine, T.H.W., Exr.," to show that this Nichols machine was used long prior to the date of the patent in suit for the manufacture of counters or stiffeners. On cross-examination the witness Nichols is asked

in several instances to pass counter-blanks through that machine, and form them into the counters which he refers to as being made and used by him. This he does, and the counter-blanks, after having been operated upon by this sole-rolling machine, are put in evidence, and marked "Exhibits "Nichols 1, 2, 3 and 4;" and a cursory examination even of these exhibits will show the capacity and effectiveness of this sole-rolling machine for the manufacture of counters and stiffeners. Such an examination will reveal at once the fact that this machine is in no way, and never was, adapted to form or shape a counter, or anything remotely approaching a counter. The blanks, after being passed through it, may be solidified as the sole of a boot or shoe or any other piece of leather would be; but if used for counters, they must be shaped or formed by the operator in lasting. In other words, after the blanks are rolled in the sole-rolling machines they are simply flat blanks, not shaped counters.

The introduction of this Nichols machine is the only attempt made by the defendants at anticipation, — a machine which, although well known to the boot and shoe trade for twenty-five years past, for the purpose of rolling and solidifying sole leather, was never considered as having any relation whatever to the manufacture of a shaped counter or stiffener.

IS THE MACHINE SHOWN IN APPELLANT'S PATENT OPERATIVE?

The operativeness of the Moffitt machine has been questioned, and expert evidence was introduced by the defendants to show that it was not practically operative. This evidence was given by Mr. Waters, defendants' expert, who is the only witness who states that the machine is not operative, and who, on his own statement, is not skilled in this art

either as related to the manufacture of counters or counter machinery. *Waters* (Rec. p. 20):

Cross-Int. 35. You never have been practically concerned at all in the manufacture of leather-board, or articles of any kind made from leather-board, have you?

Ans. No.

Cross-Int. 36. And you never have had anything to do with the manufacture of counters of any kind as a matter of business, have you?

Ans. No.

The only knowledge this expert has concerning the operativeness or non-operativeness of the appellant's machine is derived from experiments made by him with a machine marked "Exhibit A, T.H.W., Exr." This machine was made under Mr. Waters' own supervision, and is in accordance, as he swears, with what is shown in the appellant's patent. It appears, however, that this "Exhibit A" is

A DECEPTIVE MODEL

made without reference to the model in the Patent Office or to the clear description contained in the letter-press of the patent, and by a perversion of figs. 4 and 5 of the drawings, which are not very clear. That the rolls in this machine are not in accordance with the clear description, Mr. Waters admits (Rec. p. 18):

Cross-Int. 24 (*de bene*). Do you believe that these side-rolls in "Exhibit A" answer at all fairly the description of the rolls C^1 and C^2 as contained in the letter-press of the patent?

Ans. Perhaps not, if no reference is had to the drawings.

If there is any doubt as to the precise form of any parts shown in figs. 4 and 5 of the drawings, this is dispelled by reference to the model in the Patent Office, which is clearly in accordance with the description contained in the patent, and to which any one making a machine for the purpose of testing its operativeness can refer if necessary on doubtful

points of construction. Such a person, especially when acting as an expert, is in duty bound to refer to that model before constructing a test machine which he constructs by a strained perversion of two figures of the drawings, and which will not work, and on which he bases his testimony that the patented machine is not operative.

On behalf of the appellant, several witnesses were brought forward, including practical counter-manufacturers who had used the machine, as well as experts, all of whom testified that it was practically operative, and could be used as a practical every-day business in making counters.

THE APPELLANT HIMSELF,

when asked concerning the statements of the defendants' expert, says (Rec. p. 35), —

Int. 38. Mr. Waters thinks that the machines described in your reissue patent are not operative: what is the fact as to this?

Ans. The facts are, that machines are produced here as exhibits representing different forms of their structure by the specifications and drawings; that good counters have been made on each of them to my knowledge.

Int. 39. Have you ever used the machines "Exhibits Machines Nos. 1 and 2, 3 and 4"? If so, state whether they operate successfully and practically or not.

Ans. I have used them, and they do operate successfully and practically.

Mr. Spencer, in his answer to interrogatory 2 (Rec. p. 45), refutes the statements made by Mr. Waters, defendants' expert, that the machine was not practically operative, and says, "I am satisfied Mr. Waters is mistaken in his "opinion. I know he is mistaken, for I have seen machines "made in accordance with the Moffitt reissue operate successfully in the manufacture of counters, and I have myself operated those machines with success. . . ."

He further states that the counters he made were good counters, and some of them are put in evidence, marked "Exhibit Spencer No. 1, No. 2 and No. 3," made on the various forms of machines.

Mr. Spencer also states that machine marked "Exhibit "Machine No. 4" is the same as shown in figs. 4 and 5 of the reissue drawing, having the reciprocating or rotary former with three supports to hold the counter-blank to the former; and says, "I saw it [this machine] operated by one "of the workmen, and I operated it myself."

[*The counters he made are marked "Exhibit Spencer No. "1, C.F.S., Spl. Exr.*"]

He states,

"THE WORKMAN WHO WAS PRESENT,

"and who also operated the machine, was able to produce "perfect counters from this machine every time. . . ."

This witness carefully investigated the machines embodying the principles and operation of the Moffitt patent, and made numbers of counters on them, many of which he produced as exhibits. He testifies that the machine marked "Exhibit Machines Nos. 1 and 2, C.F.S., Spl. Exr.," is the machine shown in the drawings, figs. 1, 2 and 3, and that two different formers have been provided for this machine, one circular in cross-section, and the other more of a heel form, but both "adapted to give the desired shape to the "counter;" and says (Rec. p. 45), "This machine, with "each of the formers, I saw operated, and I also made "counters in it myself, and I now produce two samples of "counters made by me in this machine, the former used "being the one circular in cross-section." [*The samples referred to are marked "Exhibit No. 2, C.F.S., Spl. Exr.*"] He also made counters on the same machine, using the heel-

shaped former, one of which is marked "Exhibit No. 3, "C.F.S., Spl. Exr.," and states (Rec. p. 45) that when he saw this machine, power was applied to it, and the flanged supporting-roll was working at an increased speed, and that "Exhibits Spencer Nos. 2 and 3" were made in that machine "without the increased-speed arrangement;" that is, with the belt thrown off from the pulley, so that the supporting-roll was driven only by power applied to the former, as is the roll C in the patent. Samples of counters, marked "Exhibit Spencer No. 4," were made using each form of former, and with the supporting-roll driven at an increased speed.

Some of the machines in use have had the Central supporting-roll speeded. These Mr. Spencer also examined, and he testifies that the effect of this machine was

SUBSTANTIALLY THE SAME,

whether the supporting-roll was speeded or not, that is, in either case the counter-blank is pressed and rubbed between the former and the roll in its passage with the counter-former; and he adds (Rec. p. 46), —

"I will say that I was greatly surprised, after reading Mr. "Waters' unqualified statement that the Moffitt machine was "good for nothing, to find that these machines would pro- "duce perfect work. I am satisfied he must have operated "with a bogus machine, or have been actuated by a strong "purpose of 'how not to do it.' The Moffitt machine is "adapted for making counters, and in the hands of a skilled "workman, with proper stock, it will produce counters which "are in every respect calculated for a practical use. My ex- "periments have demonstrated that fact."

Mr Hughes,

A PRACTICAL COUNTER-MANUFACTURER,

made several hundred pairs of counters on the machine himself, and testifies (p. 42, int. 8) that he used the machine marked "Exhibit Machine Nos. 1 and 2," and he produces twenty-four pairs of counters made thereon: six pairs made by the use of the oblong former; six pairs made by the use of the same former with the top roll speeded to a speed three times greater than that of the former; six pairs made by the use of the circular former; six pairs made by the use of the same former, but with the support-roll speeded as before. He further testifies in the next interrogatory, that no blanks were spoiled in making these forty-eight counters. He also produces six pairs of counters made on "Exhibit Machine "No. 3," and in the manufacture of which no blanks were spoiled. He also made six pairs on "Exhibit Machine No. "4," and no blanks were spoiled.

[*This "Machine No. 4" is like the model of the patent in suit.*]

[*"Machine No. 2" referred to is like one of the drawings of the patent in suit.*]

Under cross-examination Hughes corroborates these statements, and in addition testifies that the counters shown in his said exhibits were not shaped by the aid of any other machine or any other process, but were made entirely upon the machine itself, without the use of his hands in pressing them into shape.

See p. 43, cross-ints. 17, 18, 19.

He further states that the counters referred to were made by him without delay, and without previous special preparation.

See cross-ints. 22, 23.

The appellant submits that there is

NOT THE SLIGHTEST EVIDENCE

showing or tending to show that that form of his machine shown in figs. 1, 2 and 3 of the drawings of his patent is not practically operative, and that the evidence produced to prove that that form of his machine shown in figs. 4 and 5 of the drawings is not practically operative is abundantly negatived by the testimony produced on behalf of the appellant to prove that it is practically operative; and he submits that no reasons of importance have been or can be stated tending to show that either form of his machine shown in the drawings will not operate practically and successfully.

[The defendants have contended that in order to produce a practical working machine, it must be provided with a former circular in cross-section, and that such a former is peculiar to their machine. The appellant submits, however, that such a former (circular in cross-section) is clearly shown and described in his patent; for it is to be noticed that in fig. 1 of the drawings, as also in the model, the former is set centrally; that is, its working face is *concentric* with the axis of its shaft (just as in defendants' machine), and it becomes circular if treated as the specification distinctly says it may be, viz., "The end *g* . . . may *be rounded as its opposite end* " . . . *so that it may be continuously revolved and in either* "*direction*." It is further to be noticed that the idea of a former having a *continuous* revolution was uppermost in the mind of the appellant in securing his patent, for in his specification, at the first mention made of the movement of the former, he speaks of it as being "set on a shaft, B, the shaft "being arranged to have a CONTINUOUS or reciprocating *rotary* "motion."]

The value of the machine as a practical working machine

is also shown by the fact that the counters which were made in it

WERE SUPERIOR

to anything which the trade had in 1872. This point is not disputed by the defendants. Mr. Hill, who was engaged in the counter manufacture during the years 1872 and 1873, testifies (Rec. p. 108), —

Int. 1. State your name, age, residence and occupation.

Ans. William G. Hill; thirty-six; Malden, Mass.; leather-merchant.

Int. 2. Were you ever engaged in the manufacture of counters; if so, from what time to what time?

Ans. I was. From the spring of 1872 until about the first of March, 1873.

Int. 3. State generally to what extent you sold counters during that time.

Ans. For the last six months of that time the average was from ten to thirty thousand pair a day.

Int. 4. Please look at the articles now shown you, marked "Exhibits "Spencer No. 1 and No. 4" and "Hughes Nos. 1, 2, 4 and 6," and state how they compare as counters with those which you manufactured and sold in 1872 and 1873.

[Objected to as incompetent and immaterial.]

Ans. They are very superior and of much greater value as an article of commerce, because they are formed much nearer to the shape of the human foot, or heel thereof, rendering the shoe much more comfortable, serviceable and valuable than with the counters as made by me during the time stated.

Int. 5. Can you produce a sample which fairly represents the counters made and sold by you during the time stated?

Ans. I can.

[Witness here produces a counter, marked "Exhibit Hill, C.F.S., Spl. "Exr.," now put in evidence.]

Int. 6. State whether that counter ["Exhibit Hill"] is better than, or inferior to, the great bulk of those made and sold by you in 1872 and 1873.

[Same objection.]

Ans. It's about a fair average sample.

[No cross-examination desired.]

The machine is not adapted to make counters of the best

shape now demanded by the trade, as are the later machines, as the styles have changed so much. Neither is it contended that the machine is as effective as

MR. MOFFITT'S LATER MACHINES.

Mr. Moffitt, when asked in interrogatory 2 relative to the differences between the shape of counters when he commenced to manufacture them and their shape as now made, says, —

They now have a shorter turn or curve between the heel-seat or flange and the body of the counter; and they have more bulge to the body of the counter now.

Int. 3. What was the shape of the first leather-board counters which you knew to be in the market, and how nicely were these counters finished?

[Objected to as immaterial, incompetent and not in reply.]

Ans. The counter "Exhibit Hill" is a fair sample of the first leather-board counters I saw in the market shaped to a form.

Int. 4. Please describe the counters made upon the Coté machine (so called) as they were first put in the market; and state also how they were changed afterwards, if they were changed.

[Same objection.]

Ans. They were first made and put into the market circular as they come from the machine; afterwards they were squeezed by the hand to give them a shape nearer the heel of a last; and subsequently, about 1875, they were shaped in a machine to give them a more desired shape by the second operation to fit a last.

It is to be noticed also, in this connection, that large manufacturers had been licensed by Mr. Moffitt under the patent in suit (*Moffitt*, Rec. p. 109, int. 9). His machines were put in their factories and run, and have been

CONTINUOUSLY USED EVER SINCE;

later forms of the machine, made much larger and stronger, being substituted for the earlier forms from time to time, as the improvements were made.

That a machine made according to the 1872 patent in suit

is operative, *was demonstrated* by the manufacture of counters in court, by the use of the machines which are marked "Exhibits Machines Nos. 1 and 2, and Machine No. 4."

The degree of operativeness required in a patented machine to render the patent valid may be less than that required to render the machine fit for practical every-day use, as has been again and again decided by this Court. The appellant therefore submits that proof showing that the patented machine is practically inoperative, or that the patented machine is crude and imperfect when compared with the machine alleged to infringe, or that the patented machine is not adapted to make merchantable goods as a practical every-day business,

CANNOT AFFECT THE CONSTRUCTION

of the patent, and that the construction of the patent, including the question whether more is claimed than is described, must necessarily be the same whether the things claimed be practically operative in a commercial sense or not, or whether the machine claimed is better or worse than the machine sued, or whether merchantable goods can or cannot be made as a practical business with the machine, and by practising the improvement in the art, respectively claimed in the patent.

THE REISSUE VALID.

It will be urged by the counsel for the defendants that the reissue patent is invalid because it describes and claims more than is shown in the original. Let us therefore examine the original and reissue, and note the points of difference between the two.

It must not be forgotten that Mr. Moffitt was the first man to rub and roll a counter to shape; that he was the first man to show and describe a machine for doing that work;

that he was the first to construct such a machine and put it into practical operation; that he was the first to place a model of such a machine in the Patent Office, and to obtain a patent therefor. The original of the patent in suit contains a claim for a counter as a new article of manufacture. This claim, and all references to the article made as a new article of manufacture, he omitted in the reissue. This he had a right to do, for the reason that

HE HAD A RIGHT TO DISCLAIM

any part of his invention which he found upon examination and consideration, after receiving his Letters Patent, to be old and well known. It will not be contended, I think, that such a disclaimer, which has the practical effect of limiting his patent, and confining it to that which was new and novel in his invention, will affect the validity of his reissue. The second point of difference which will be noticed between the original and reissue is that the word "eccentrically," which qualifies or limits the manner of setting the former upon its shaft, is omitted in the reissue, as well as words which import that the former must be set eccentrically upon the shaft. It will be seen that the action of the former upon the material must necessarily be the same, whether a former be set eccentrically on its shaft or concentrically, since it is a moving former. The rubbing and rolling process which Mr. Moffitt claims, may be practised as well with a machine the former of which is set eccentrically upon its shaft. The rubbing and rolling is a result which must follow from the use in such a manner of a former set upon a shaft so as to turn or revolve, as Mr. Spencer testified (Rec. p. 49):

> The patent [appellant's] states expressly and repeatedly that the former revolves or reciprocates upon its axis, and the counter-blank is carried by this rolling action of the former between the face of the

former and that of the several supports, and is rubbed and rolled as well as squeezed between them while being brought to shape.

And (Rec. p. 50), referring to the Coté (defendants') machine, which is provided with a circular former, he says:

If I am correct in my understanding of what is Moffitt's invention, viz., a former having a motion about a centre, with mechanism supporting and pressing the blank thereto, it is clear the necessary operation of the Coté machine embodies the same combination of mechanism. There is a difference in detail in the arrangement of the support in the Coté machine from that specifically described in the Moffitt reissue, but the rolling action remains; the Moffitt stamp is upon it so long as the former is located upon an axis and carries the blank between itself and a suitable support.

Mr. Moffitt was entitled to a patent on his machine, irrespective of the fact that the moving former was shown and described by him as eccentric to the shaft on which it is mounted. The word "eccentric" was therefore wholly unnecessary in his original patent. It is to be noticed also, that although the specification mentions a former mounted eccentrically on a shaft, *the drawings* figs. 1 and 4, *as also*

THE MODEL IN THE PATENT OFFICE,

show a former mounted concentrically, and he therefore merely corrected his specification by what was shown in the model and drawings. It will not be contended, however, that to substitute a former set concentrically in place of the former shown by him in either of the drawings of his patent would involve the exercise of inventive faculty. The concentric former in such a machine is simply a mechanical equivalent for the eccentric one.

It is important to notice also that the conception of the machine shown and described in the original is inseparable from the conception of the process which that machine was constructed to practise. The case is therefore a very differ-

ent one from cases which involve processes which may be practised by machines wholly different, mechanically, the one from the other, and where the conception of the machine does not involve that of the process. In such cases one person may invent the process, and another the machine for practising it; and the process itself in such a case cannot guide us in construing the patent for the machine for practising it. In this case, however, we have a process and a machine the conceptions of which are

CO-EXTENSIVE AND INSEPARABLE.

When Mr. Moffitt conceived the idea of rubbing and rolling a counter to shape, and showed one machine for doing that, the elements of that machine are so simple, that the conception underlying it must, in the nature of things, have been extensive enough and large enough to cover all forms of the machine constructed with the same simple elements, viz., a moving former and a pressure surface. The transforming of the counter-blank must be attained by a mechanism consisting of a moving former and a pressure surface. The result is identically the same whether the former be set eccentrically on its shaft or concentrically. It is therefore claimed that the omission of the word "eccentrically," in the original, did not extend the invention or make its scope greater than it was before. The

CONCEPTION COULD NOT HAVE COME INTO EXISTENCE

without being complete in the first instance. The process of rubbing and rolling a counter to shape could not have been described and claimed without involving the complete conception of a machine for practising it. The machine could not have been invented without the inventor's having a complete conception of the process of rubbing and rolling the counter to shape which was to be practised upon the machine.

Mr. Moffitt had therefore a right to make the correction, for such only it was, that he made by omitting the word "eccentrically," and words which have the same import, in his original when he surrendered it and took out his reissue. The change was not a material or essential one. It called for

NO STRETCHING OF THE CONCEPTION

which he originally had. It embraced nothing but what was clearly indicated in the original patent, to any one who had the least knowledge of mechanics, and it was therefore clearly such a mistake as the law contemplates shall be corrected by just the method which Mr. Moffitt employed, namely, by reissuing his patent.

That the eccentricity or concentricity of the former was wholly unessential in the Moffitt invention, was also the view taken by the Examiner in the Patent Office when, on the 14th of January, 1874, he rejected the application of Louis Coté for his patent, referring to this very patent of appellant (Rec. p. 29), and afterwards allowed the patent

WHEN MR. COTÉ HAD AMENDED HIS CLAIM,

not by specifying the manner in which he mounted his moving former upon its shaft, but by limiting himself to a stationary matrix, or pressure surface combined with an elastic cushion. It is clear that the pressure surface and elastic cushion which were employed by Mr. Coté were what he relied upon as the only novelty in his invention, and as entitling him to a patent thereon.

There is but one change in the reissue specification which may be called an addition to the original. It consists in the use of the words, "I place supports or rollers," in the reissue, instead of the words, "I place a roller," in the original. The addition, if there be any addition at all, must consist in the

idea conveyed by the word "supports," used as it is, and by any construction which may be placed upon it. The phrase "supports *or* rollers" indicates that the word "supports" is but another name for rollers. In other words, it conveys the idea of the function of the rollers. This function was clearly designated and set forth in the original patent. The rollers are distinctly referred to as serving to hold the blank close against the former; that is, they are

DESCRIBED AS SUPPORTS,

and they act as supports none the less because they are rollers. It is not necessary, in the operation of the machine, that these rollers should revolve, although they may revolve if desired. In fact, it is evident that their function must be the same whether they are fixed and stationary, or allowed to revolve; consequently their revolving is treated as immaterial by the patentee in the specification, and it is nowhere stated therein that they are to revolve. In either case they support the blank, or hold it against the former. All this appears plainly, both in the description and from the drawings of the original patent, and the phrase of the reissue quoted, merely sets forth the idea more definitely and distinctly than it was set forth in the original. This the patentee had a right to do when he reissued his patent. It was clearly within his province to make such minor changes as would bring out more clearly and definitely what he had already brought out less clearly and less definitely in his original patent.

The law on this point was very clearly laid down by Mr. Justice BRADLEY in the case of *Powder Company* v. *Powder Works*, 8 Otto, 138:

"The specification may be amended so as to make it more "clear and distinct; the claim may be modified so as to make

"it more conformable to the exact rights of the patentee; "but the invention must be the same. So particular is the "law on this subject, that it is declared that 'no new matter "'shall be introduced into the specification.' This prohibi- "tion is general, relating to all patents; and by 'new matter,' "we suppose to be meant new substantive matter, such as "would have the effect of changing the invention, or of intro- "ducing what might be the subject of another application for "a patent. The danger to be provided against was the "temptation to amend a patent so as to cover improvements "which might have come into use, or might have been "invented by others, after its issue. The legislature was "willing to concede to the patentee the right to amend his "specification so as fully to describe and claim the very "invention attempted to be secured by his original patent, "and which was not fully secured thereby in consequence of "inadvertence, accident or mistake; but was not willing to "give him the right to patch up his patent by the addition of "other inventions, which, though they might be his, had not "been applied for by him, or, if applied for, had been aban- "doned or waived. For such inventions, he is required to "make a new application, subject to such rights as the public "and other inventors may have acquired in the mean time. "This, we think, is what the present statute means, and "what, indeed, was the law before its enactment under the "previous act of 1836."

Two paragraphs are inserted in the reissue explanatory of the action of the machine upon the material which is operated upon. These

DO NOT IN ANY WAY CHANGE

the character or scope of the invention. The mode of operation or the results which are effected by a machine may be

explained or set forth in a reissue, provided the machine be shown or described in the original.

It is submitted further that a patent should be construed liberally in favor of the patentee, as was distinctly laid down by Mr. Justice CURTIS in *Winans* v. *Denmead*, 15 How. 330. He says, —

"2d. Because specifications are to be construed liberally "in accordance with the design of the Constitution and the "Patent laws of the United States, to promote the progress "of the useful arts, and allow inventors to retain to their "own use, not anything which is matter of common right, "but what they themselves have created. *Grant* v. *Ray-*"*mond*, 6 Peters, 218; *Ames* v. *Howard*, 1 Sumner, 482, "485; *Blanchard* v. *Sprague*, 3 id. 535, 539; *Davoll* v. "*Brown*, 1 Wood & Min. 53, 57; *Parker* v. *Haworth*, 4 "McLean, 372; *LeRoy* v. *Tatham*, 14 How. 181, and opin-"ion of Baron Parke, there quoted; *Nelson* v. *Harford*, "Web. Pat. Cas. 341; *Russell* v. *Cowley*, id. 470; *Burden* "v. *Winslow* (decided at the present term), 15 How."

CLAIMS OF THE REISSUE.

It will be seen that the claims are not enlarged in the reissue. The second claim of the original for a counter as a new article of manufacture is omitted in the reissue. The 1st claim of the original for the described apparatus for rolling to shape heel-stiffeners or counters is only varied in the 1st and 2d claims of the reissue by specifying what that apparatus is. Nothing more is specified than was shown and described in the model, drawings and specification of the original and claimed in the 1st claim of the original, and nothing is specified but

WHAT MUST HAVE BEEN IN THE ORIGINAL

conception, and what was *inseparably* connected with the conception of the machine and process shown and described in the original patent.

The 3d claim in both original and reissue is for the process, and these claims are substantially alike in import, although the wording is slightly different. If anything, however, the reissue claim for the process is narrower than the original claim, and was embraced in the original. There is certainly no enlargement of the process claim in the reissue, and it will not be contended that there is anything in the process claim of the reissue not included in that of the original, and which, from necessity, was not in the original conception.

It is submitted that it is clearly within the law to reissue a patent and obtain a valid reissue if no new matter is introduced and the scope of the invention is not enlarged; in other words,

IF THE REISSUE IS AN HONEST ONE,

and is not an attempt on the part of the patentee to include in his reissue new ideas which were not described, suggested or indicated in his original, and thus change the scope of his invention and absorb the improvements or inventions of others who may have followed him, and who may have made substantial additions to the machine or to the art. It is clear that a valid reissue can be obtained whenever it appears that the changes made are not such as enlarge the scope of the original invention. It is clearly competent for a patentee by a reissue to render clear and distinct what was not clear and distinct in the original. He may include in his reissue anything that would be included in a fair construction of his original, and he may make such changes or additions as will

render certain the original conception. This was very clearly set forth by Mr. Justice BRADLEY in the opinion cited above.

It is submitted, therefore, with confidence that there are

NO CHANGES IN, OR ADDITIONS TO,

the reissue in suit which render it invalid. No new features or devices have been interpolated into it which were not suggested or substantially indicated in the original specifications, drawings, model or claims. Even irrespective of any consideration of the state of the art, nothing appears in the reissue which was not a proper and lawful correction. And when it is considered that Mr. Moffitt's original patent was

THE FIRST IN THE ART,

and was the origin and creation of the art, it is beyond doubt that the changes made were honestly and lawfully made.

INFRINGEMENT.

We have now to consider the question of infringement. It cannot be disputed that the Coté machine employs the turning or revolving counter-former which was original with the appellant. This is the essential and underlying idea set forth by the appellant in this patent of May 21, 1872, that the counter-former, *whatever may be its shape*, must turn or revolve in order to the successful production of a good counter from resilient material like leather or leather-board. And inseparably connected with this idea was that of the process of rolling and rubbing a counter to shape. This process cannot be practised unless a machine constructed with such a former be used.

It is important to notice the simplicity of the conception embodied in this machine. It will probably be argued ably and at length, by counsel for defendants, that the Coté ma-

chine, which they use, is essentially different from Moffitt's invention as shown and described in his said patent. It will be seen, however, that

THE MAIN FEATURE OF THESE TWO MACHINES,

as it must be of every machine which makes counters by a rolling and rubbing action, is the turning or revolving former. Once give this feature to the commonest mechanic, with a knowledge of what is to be done with it, or of what is required, and he can construct, by the use of ordinary ability, and without the intervention of inventive faculty, as good an apparatus for rolling and rubbing a counter-blank to shape as has ever been constructed.

It will be apparent that the former may be varied from time to time to suit the requirements of the trade in the form of counters. This form has changed frequently since these machines were in operation, and to produce the new forms required, the outlines of the formers in the machines must be changed. An ordinary mechanic would see at once that these may be of any shape, and these changes no more require the use of inventive faculty than do the changes in the pressing and guiding surfaces employed. Once give the conception of a moving former and a line of pressure, and a counter made to conform thereto, and everything else, including the great variety of minor changes which may be made, are obvious whenever suggested by the demands of the trade or the peculiar circumstances of the particular case.

Mr. Hervey Waters, the well-known expert, testifying for the defendants, expressly states that a machine differing from the Moffitt machines as shown in the drawings, only in having a former concentric with its axis in all parts, would not be outside of Moffitt's invention (*Waters*, Rec. p. 22).

Cross-Int. 48. You point out in your direct that the cross-section of the former in the Coté machine is a circle, while in the Moffitt machine it is not a circle: is it your opinion that a machine made with a former circular in cross-section, and otherwise precisely as is described in the Moffitt reissue, would be substantially different from the machine described in the Moffitt reissue?

Ans. I am not prepared to say that it would, but I am prepared to say that if the Moffitt machine were a practical machine for the purposes of shaping counters or heel-stiffeners, as the patent supposes, then another machine, differing from it only in the fact that the former was concentric with its axis in all its parts, then such difference would not take the machine out from Moffitt's invention, so far as I know; whether it would take it out of the patent I don't undertake to say.

The precise shape of the former does not affect in the slightest the operation of the machine, and that was, and must from the nature of the case have been, a part of the original conception.

The fact that a boot or shoe counter must, whatever its peculiar style, be heel-shaped, makes it certain that a counter-former must in any case be such as to give the

DESIRED HEEL SHAPE,

whatever be its form in cross-section. All formers shown in the drawings of the patent in suit are of a desired heel shape, although in cross-section they vary in outline from oblong or elliptical (figs. 2, 3, 4 and 5) to circular (used by the defendants), as the former shown in fig. 1 would be if treated, as the specification states it may be, viz. (Rec. p. 119): "The end *g* need not be a plane as shown "in fig. 1, *but instead may be rounded as its opposite end*, as "shown in fig. 3, *so that it may be continuously revolved*, "and in either direction. *In such case I prefer to place the* "*shaft through its centre*, or equally distant from both its "ends."

The appellant invented a moving counter-former, and it could obviously be made of any particular form desired to

produce a given style of counter. That form could not be fixed and made definite for all styles and kinds of counters used by the trade. This fact is brought out clearly by the appellant. *Moffitt* (Rec. p. 109).

Int. 6. What determines the shape of counters made on your machine and the Coté machine?

Ans. The revolving former.

Int. 7. And what determines the shape of this former?

Ans. The shape or style of the counter to suit the notions of the trade of parties using the counters.

A MOVING FORMER

is the great feature of Mr. Moffitt's invention, as it is the essential feature of Coté's machine.

Mr. Spencer very clearly states this point when he testifies (p. 56, int. 14) that in his opinion Coté relies upon the revolving of the former as essential in his machine, and fortifies his statement by the following quotation from the Coté patent: —

The process of forming and setting heel-stiffeners or counters for boots and shoes, consisting in subjecting the blank to compressions between a continuously moving former and a stationary die, whereby both rolling and moulding action is obtained at one and the same operation.

Referring to this, witness says, —

I think this extract speaks for itself; little explanation is necessary to show the similarity of action between the Coté machine and the Moffitt machine. The rolling action of the former is clearly described and specifically claimed in the Coté patent, and the stock is pressed by the rotary former between itself and a support of similar contour in the same manner, for the same purpose, and with the same results, as in the machine described in the Moffitt patent.

In his redirect examination, Mr. Spencer, in answer to interrogatory 109 (p. 72), in which he is asked to refer to the differences between the Coté and Moffitt inventions,

again points out briefly and concisely what, in his opinion, are the similarities of the two machines. He says, —

> The two machines under comparison are alike in the vital point which distinguishes them from all prior counter machines. That point is just this: in the moulding machines the counter-blanks were shaped by dead pressure in a confined space, while in the Moffitt and Coté machines the counter-blank is shaped and set to shape by what Mr. Moffitt has very properly and aptly designated as a live, active, moving pressure, or by the forcing of the blank through the passage between the former and the supporting apparatus.
>
> In the moulding process the blank is compressed in a space of the counter form. In the Moffitt and Coté machines it is compressed and rubbed in its passage through a space or between two surfaces, which compel it to take the form of that passage, both in the direction of its length and crosswise.
>
> In the Moffitt and Coté machines the blank is forced through this passage endwise by the rotation of the former, which carries the blank forward and subjects it to pressure, line by line, as it is brought by the rotation of the former into, and carried through, the passage between the shaping surfaces. . . .
>
> I have pointed out that the concave bed in which the Coté former revolves, represents a filling up of the spaces between the supports shown in those drawings [referring to the Moffitt drawings, figs. 4 and 5].

While it is admitted that the Coté machine employs the turning or revolving counter-former which was peculiar to Moffitt's creation, it will be argued that it employs mechanism of a peculiar kind, wholly different from that employed by Moffitt, to act in conjunction with the turning or revolving former. Let us examine this mechanism, therefore, to see if possible in what it consists, as shown first in the Moffitt patent and exhibits, and also in the Coté reissue patent and in the "Defendants' Exhibit Coté Machine." The Moffitt patent shows at least two forms of mechanism for holding the counter-blank up to and against the revolving former. In the simplest form shown the blank is pressed against the former by a single circular support having an

outline the converse of and conforming to that of the former. The other form shown has, in addition to the central circular support, two auxiliary supports, making in all three supporting and pressing surfaces, which act to press the blank and hold it firmly against the former. Mr. Moffitt's patent shows, therefore,

THREE METHODS OF GETTING THE NECESSARY PRESSURE

on the outer surface of the blank for the purpose of transforming it into a counter, viz., by the use of one, two or three separate lines of pressure, the periphery of each supporting roller presenting one line of pressure as nearly as may be; and he further clearly shows that one line of pressure is sufficient. The auxiliary rolls or supports are also shown, and may be used either to exert an additional pressure, if the material which was being operated upon was found to be particularly resilient and difficult to transform, or only as supports to hold the blank up to the former without exerting any transforming pressure. Mr. Moffitt had, previous to the date of the Coté patent in suit, as will be seen by the exhibits, used pressure surfaces* of varying width for the purpose of producing the requisite transforming pressure upon the blank.

It will be seen by all the testimony of Mr. Moffitt and others relative to his experiments, that he considered the extent of the guiding surface and the number of lines of pressure presented to the blank in its passage through the machine as

WHOLLY IMMATERIAL

so long as the pressure produced was sufficient to shape the blank. He employed various kinds and amounts of pressure

*The names cup, mould, die, hood, guide, matrix, &c., used by witnesses in the evidence, refer to the parts which contain the pressure surfaces.

according to the quality and nature of the material to be acted upon from a single pressure-roller, as shown in fig. 1 of the patent in suit, to a surface conforming in two directions to the former, as is seen in the defendants' machine. The precise form and shape of the piece or pieces of metal used to give the necessary pressure to the blank might be varied in many ways, and that was seen and understood by Mr. Moffitt, as it would have been by any mechanic, when he made his invention and took out his patent, and his testimony and the various exhibits show that beyond a question.

It is not denied by any one that the working point in the Coté machine, that is, the point at which by compression between the moving former and the mould, so called, the transforming of the blank into a counter takes place, is

THE FIRST LINE OF PRESSURE

presented by the mould at the side at which the blank enters. The remaining surface of the mould either presents an unnecessary pressure, or simply acts as a guide to hold the counter to the former, precisely as does the auxiliary support of Moffitt. *The simple fact is, that any piece of metal having a profile the converse of and conforming to that of the former, and set in such relation to the former as to produce even a single line of pressure upon the blank, will operate to transform the blank into a counter. It is a wholly unimportant part of the mechanism whether the pressing surface be greater or less:*

IT IS SIMPLY AND ENTIRELY A QUESTION OF DEGREE,

which would be obvious to even the commonest mechanic. The discovery that a moving former with a corresponding pressure surface would so change the strip of leather or leather-board from which a counter is made as to give it a permanent conformity to the former, whatever the pecu-

liar shape of that former might be, and thus transform it into a counter, was Mr. Moffitt's invention. The essence of the discovery was that the rubbing and rolling action between a moving former and a corresponding pressure surface so changed the nature of the resilient and intractable materials from which counters are made as to render a well-shaped counter of permanent form possible.

The point has been made by defendants' expert that there is no rolling action in the operation of defendants' machine (Coté) such as is spoken of in the appellant's patent sued on; but the appellant's expert, Mr. Spencer, says (p. 48), "I do not agree with him;" and, referring to the old process of moulding counters by the use of a male and female mould in which the entire area of the counter-blank was simultaneously pressed between the mould, says, —

> Moffitt's invention changed all this by giving to his counter-former a motion upon an axis rotary or reciprocating, so as to give to the blank a gradual pressure, or to compress it line by line instead of all at once, and he accomplished this by causing the blank to travel with the former in its rolling motion, by which I mean its motion upon the axis, whether rotary or reciprocating, which carried the blank little by little between the former and the support. In this manner he was able to give such gradual pressure and rub to the stock as to elongate permanently the outer surface of the blank as compared with the inner surface, and thus to set the counter to shape so that its elasticity should not re-assert itself. . . .

Mr. Moffitt showed and described a machine for doing this which embodied the whole conception. That conception is as complete to-day as it was when the patent was granted; there has been

NOTHING ADDED TO IT,

and from its simplicity and singleness, it is safe to say nothing can be added to it to make the conception of mechanism for rolling and rubbing a counter to shape more complete.

Mr. Coté certainly added nothing to it. The moving former and the pressure surface is as well shown by Moffitt as by him. In the very most favorable view of the defendants' machine, it is only an improvement on Moffitt's by the substitution of a greater guiding surface; and in this view it embraces the Moffitt invention, and to the extent that it does embrace it, must be an infringement of it. Mr. Spencer, a skilful expert, says (page 50 of the Record, int. 7), —

> A striking feature of Moffitt's invention, which bears the stamp of originality, is that in the revolution of his former, carrying with it the blank to be operated upon little by little, every portion of the blank is brought to pass between the points of nearest approach of the two surfaces which shape it, and by this act the difficulties formerly met with in producing an equal pressure and attaining an uniform solidity with permanence of shape are entirely overcome. This result, I maintain, is due to the rolling action of the former, and is equally attained in machines having such a moving former whether with or without revolving supports. In other words, the rotary movement of the former is vital, while that of the supports is immaterial.
>
> With this understanding of the meaning of the term "rolling action," as used in the Moffitt patent, there can be no doubt whatever that such action is essential to the operation of the Coté machine. If I am correct in my understanding of what is Moffitt's invention, namely, a former having a motion about a centre with mechanism supporting and pressing the blank thereto, it is clear the necessary operation of the Coté machine embodies the same combination of mechanism. There is a difference in detail in the arrangement of the support in the Coté machine from that specifically described in the Moffitt reissue, but the rolling action remains. The Moffitt stamp is upon it so long as the former is located upon an axis and carries the blank between itself and a suitable support.

It has been shown that a single line of pressure is all-sufficient acting in connection with a moving former to transform the blank into a rubbed and rolled counter. The longitudinal curve of the counter is greater if the blank, in its passage through the machine, be held close to the former after passing the line of transforming pressure. Moffitt in his machine holds the blank against the former to produce

this result by two supporting lines or surfaces set around the former. Coté in his machine connects these two supporting surfaces, and makes one continuous surface. It has been shown clearly that the results obtained in either case are the same, and that the continuous pressure surface used by Coté was known to the appellant as early as the date of this patent sued on, May 21, 1872, and was always considered by him as a very obvious equivalent for the auxiliary supports shown in the model and drawings, and described in the specification of his patent. The mechanism Coté employs for holding the blank against the former might be put into such a machine as Moffitt shows and describes in his patent by

A COMMON MECHANIC,

without the use of inventive faculty, if he were asked to change the form of the guiding and supporting mechanism shown in Moffitt's patent. It is submitted, therefore, that the change made by Coté in the guiding surface differed only in degree from Moffitt's; it did not differ in kind, and was not such as would require invention in making it. It was merely a change in the form and not of the essence of the invention, and was therefore simply a mechanical equivalent. Mr. Justice CLIFFORD, in the case of *Machine Company* v. *Murphy*, 7 Otto, 125, draws the distinction clearly between such a change and one that goes to the essence of the invention and requires the use of inventive faculty. He says, —

"Except where form is of the essence of the invention, it "has but little weight in the decision of such an issue, the "correct rule being that, in determining the question of in- "fringement, the Court or jury, as the case may be, are not "to judge about similarities or differences by the names of "things, but are to look at the machines, or their several de- "vices or elements, in the light of what they do, or what

"office or function they perform, and how they perform it, "and to find that one thing is substantially the same as "another if it performs substantially the same function in "substantially the same way, to obtain the same result, "always bearing in mind that devices in a patented machine "are different in the sense of the patent law, when they "perform different functions, or in a different way, or pro-"duce a substantially different result.

"Nor is it safe to give much heed to the fact that the cor-"responding device in two machines organized to accomplish "the same result is different in shape or form the one from "the other, as it is necessary in every such investigation to "look at the mode of operation or the way the device works "and at the result, as well as at the means by which the re-"sult is attained.

"Inquiries of this kind are often attended with difficulty; "but if special attention is given to such portions of a given "device as really does the work, so as not to give undue im-"portance to other parts of the same which are only used as "a convenient mode of constructing the entire device, the "difficulty attending the investigation will be greatly dimin-"ished, if not entirely overcome. *Cahoon* v. *Ring*, 1 Cliff. "620."

The matrix or guiding surface of the Coté machine differs in no respect from the guiding surface seen in the two supports of Moffitt except in form. There is

NO CHANGE IN PRINCIPLE,

and cannot be; for when Mr. Moffitt discovered that by rubbing and rolling he could give a permanent set to leather or leather-board in any form desired for a counter, and showed his machine for doing it, he had completed the invention; the mere adaptation of parts for doing the work of rub-

bing and rolling more or less completely was the work of the constructor, not of the inventor. It is at this point that the value of the conception of the process, fully set forth and claimed in the original patent, as a guide to the extent of the mechanical conception is apparent.

If we consider the state of the art at the time Mr. Moffitt patented his invention, we may more clearly determine its extent. This it is proper to do. Mr. Justice STRONG, delivering the opinion of this Court in the recent case of *Garneau* v. *Dozier, Weyl & Co.*, says, —

"To determine accurately the extent of the invention "secured by this patent, the state of the art at the time "when the original patent was granted (May 1, 1860) must "be considered."

This art of making counters by rolling and rubbing them to shape,

WAS CREATED BY MR. MOFFITT, THE APPELLANT.

Before his invention the art did not exist. He conceived the idea and embodied it in a machine. This machine proved to be very simple, consisting of only two essential parts, a moving former, and a line of pressure produced by a pressure surface arranged to act in connection with the former. It happens, however, that no rubbed and rolled counter can be made except by the use of just these parts. Whatever else may be added to the machine, it cannot produce a rubbed and rolled counter without just these two elements; and it is found further that they do the work completely. In other words, the conception was complete, and from its singleness, must have been complete. If it existed at all, it existed as a single conception complete in itself; and it must have existed, else the process could not have been described as it was, and a machine shown

embodying the essential elements of a moving former and a pressure surface giving a line of pressure. Everything within that conception belongs to the inventor. That conception is undoubtedly Moffitt's.

The appellant submits that, as he was the *first to conceive the idea of a machine to make counters by a rolling and rubbing action* as distinguished from a moulding action, *the first to make a machine* embodying this invention, which machine is shown to be practically operative, although (as may be admitted for this purpose, while it is strenuously denied), crude and imperfect in comparison with subsequent machines, and not adapted for making merchantable counters as a practical every-day business, *the first to place a model of such a machine in the Patent Office*, and to apply for and obtain a patent describing this invention, and showing three forms of apparatus for practising it, each form practically operative, although not so good as subsequent machines, and containing claims for the new apparatus described and shown as well as for the improvement in the art, — it follows conclusively, as matter of law, that his patent is valid, and should be construed to give him the exclusive right to make, use and sell machines consisting of a heel-shaped former mounted on a shaft, and combined with one or more pressure surfaces whose working profile is the converse of and conforms to the heel-shaped former, and is adapted to force the counter-blank to conform lengthwise to the former when the blank is pressed between the former and the profile of the piece or pieces of metal used with it, and also the exclusive right to practice the improvement in the art claimed.

In *Smith* v. *Nichols*, 21 Wall. 118, Mr. Justice SWAYNE, delivering the opinion of this Court, says,—

"A patentable invention is a mental result. It must be "new, and shown to be of practical utility. Everything

"within the domain of the conception belongs to him who "conceived it. The machine, process or product is but its "material reflex and embodiment. A new idea may be en- "grafted upon an old invention, be distinct from the con- "ception which preceded it, and be an improvement. In "such case it is patentable. The prior patentee cannot use "it without the consent of the improver, and the latter cannot "use the original invention without the consent of the for- "mer. But a mere carrying forward, or new or more ex- "tended application, of the original thought — a change only "in form, proportions or degree, the substitution of equiv- "alents, doing substantially the same thing in the same way, "by substantially the same means, with better results — is not "such invention as will sustain a patent. These rules apply "alike, whether what preceded was covered by a patent, or "rested only in public knowledge and use.

"In neither case can there be an invasion of such domain, "and an appropriation of anything found there. In one "case, everything belongs to the prior patentee; in the "other, to the public at large."

Now the defendants' machine, admitting it to be an improvement upon Moffitt's, can be nothing more than an addition to his conception. It must embrace his. It must be only a carrying forward of his idea, and therefore not such an invention as will sustain a patent. In *Roberts* v. *Ryer*, 1 Otto, 157, Chief Justice WAITE says, —

"Undoubtedly Lyman expected to use the ascending air "principally for the purposes of refrigeration, and he there- "fore supposed the greatest benefit would be derived from "that current; but there was nothing in his specification to "prevent the use of the descending air, or from so construct- "ing his refrigerator as to make that available. If it should

"be thought advisable to extend the size of the chamber for "the descending air, there was nothing to prevent it. It "was 'a mere carrying forward, or new or more extended "'application, of the original thought — a change only in "'form, proportion or degree, doing substantially the same "'thing in the same way, by substantially the same means, "'with better results.' This is not such an invention as will "sustain a patent. We so decided no longer ago than the "last term, in *Smith* v. *Nichols*, 21 Wall. 112. Clearly, we "think, therefore, the invention of Sanford was anticipated "by Lyman, and his patent is, on that account, void."

The same doctrine was again laid down in *Dunbar* v. *Myers*, 4 Otto, 199, when Mr. Justice CLIFFORD, citing *Smith* v. *Nichols*, said, —

"Meritorious inventors are entitled to protection; but it "is settled law that a mere carrying forward of an original "patented conception, involving only change of form, propor- "tions or degree, or the substitution of equivalents, doing "the same thing as the original invention, by substantially "the same means, is not such an invention as will sustain a "patent, even though the changes of the kind may produce "better results. *Smith* v. *Nichols*, 21 Wall. 115."

The Coté machine need not be identically the same in every part in order to infringe the Moffitt patent. And this must of necessity be the case, else no question of infringement could arise. It is submitted that it would be

WELLNIGH IMPOSSIBLE

to construct an operative machine any more clearly embodying Moffitt's principles and mode of operation than Coté's machine does, unless it were part for part exactly like Moffitt's.

If it be considered that Coté has produced an improved

machine, still the improvement can be but an addition to what Moffitt invented, and it must embrace his invention and infringe his patent.

A machine or structure may embrace an additional device or perform an additional office, and yet infringe an earlier patent. In the case of *Elizabeth* v. *Pavement Co.* (7 Otto, 137, 138), Mr. Justice BRADLEY states the law very clearly:

"The strips used by the defendants are substantially the "same as here described, and perform the same office. The "only difference in their construction and application be- "tween the blocks is that they are bevelled by being made "wider at the top than at the bottom, — the extra width of "the top part being let into a notch or groove in the blocks. "If they perform the additional office of partially sustaining "the pressure of the blocks and locking them together, they "do not any the less perform the office assigned to them in "Nicholson's pavement. Their peculiar form and applica- "tion may constitute an improvement on his pavement, but "it includes his."

The patent in suit embraces not only a machine, but a process as well, and the two are inseparable. If the 1st claim of the patent for the machine be sustained as it stands, the process

CANNOT BE PRACTISED WITHOUT INFRINGING IT;

and it is true that if the 3d claim of the original patent for the process be sustained, it cannot be practised except by the use of a machine substantially like that shown. The process claim of the reissue in suit is only a limited form of the process claim of the original, if, indeed, it varies from it at all in substance.

The defendants clearly form the heel seats of their counters by means of a former having a motion about a centre,

and which gives the heel seat a drawing or rubbing action against a flange or bearing surface, in addition to the rolling action upon the rest of the counter. This claim is, in substance, for the process of forming the heel seat while the rest of the counter is rolled by the former; and by that rolling action of the former the whole blank is carried forward, and thereby the heel seat is drawn or rubbed against the flange of the roller C. This rolling action of the former, combined with the rubbing action, extends practically to all parts of the counter, as is described in both original and reissue, and as was more clearly claimed in the 3d claim of the original. The appellant desires only that he be given

THE PROCESS AS INVENTED BY HIM,

and claimed in both original and reissue. He has described fully his process, and shown various forms of mechanism for practising it, all of them practical. He has therefore met the requirements of the law as laid down by Mr. Justice BRADLEY in the case of *Tilghman v. Proctor*, 12 Otto, 727, in which the subject of process patents, so called, is given a very full and exhaustive consideration. Mr. Justice BRADLEY, citing the opinion of Chief Justice TANEY in *O'Reilly* v. *Morse*, 15 How. 62, says, —

"After reviewing the statutes and decisions bearing upon "the subject, the Chief Justice makes a summary conclusion "of the whole matter, as follows: 'Whoever discovers that "'a certain useful result will be produced in any art, ma-"'chine, manufacture or composition of matter, by the use "'of certain means, is entitled to a patent for it, provided he "'specifies the means he uses in a manner so full and exact "'that any one skilled in the science to which it appertains "'can, by using the means he specifies, without any addition "'to or subtraction from them, produce precisely the result

"'he describes. And if this cannot be done by the means "'he describes, the patent is void. And if it can be done, "'then the patent confers on him the exclusive right to use "'the means he specifies to produce the result or effect he "'describes, and nothing more. And it makes no difference, "'in this respect, whether the effect is produced by chemical "'agency or combination, or by the application of discoveries "'or principles in natural philosophy, known or unknown "'before his invention, or by machinery acting altogether "'upon mechanical principles. In either case he must de-"'scribe *the manner or process* as above mentioned, and the "'end it accomplishes. And any one may lawfully accom-"'plish the same end without infringing the patent if he uses "'means substantially different from those described.' Id. "119.

"It seems to us that this clear and exact summary of the "law affords the key to almost every case that can arise. "'Whoever discovers that a certain useful result will be pro-"'duced in any art, by the use of certain means, is entitled "'to a patent for it, provided he specifies the means.' But "everything turns on the force and meaning of the word "'means.' It is very certain that the means need not be a "machine or an apparatus; it may, as the Court says, be a "*process*. A machine is a thing; a process is an act, or a "mode of acting. The one is visible to the eye, — an object "of perpetual observation. The other is a conception of the "mind, seen only by its effects when being executed or per-"formed. Either may be the means of producing a useful "result. The mixing of certain substances together, or the "heating of a substance to a certain temperature, is a pro-"cess. If the mode of doing it, or the apparatus in or by "which it may be done, is sufficiently obvious to suggest it-"self to a person skilled in the particular art, it is enough in

"the patent to point out the process to be performed, with-
"out giving supererogatory directions as to the apparatus or
"method to be employed. If the mode of applying the pro-
"cess is not obvious, then a description of a particular mode
"by which it may be applied is sufficient. There is, then,
"a description of the process, and of one practical mode in
"which it may be applied. Perhaps the process is suscepti-
"ble of being applied in many modes, and by the use of
"many forms of apparatus. The inventor is not bound to
"describe them all in order to secure to himself the exclusive
"right to the process, if he is really its inventor or dis-
"coverer. But he must describe some particular mode or
"some apparatus by which the process can be applied with
"at least some beneficial result, in order to show that it is
"capable of being exhibited and performed in actual experi-
"ence."

The Court below intimated that the question to be decided was which of the parties really invented the Coté machine.

Now, although the Coté machine differs in certain details of construction from the appellant's machine as patented by him, viz., in showing only one form of a former, and that circular in cross-section, in dispensing with the swing-frame and its adjuncts, and in using a concave pressure surface conforming to and the converse of the former, instead of one or more rolls the converse of and conforming to the former, and although Coté was the original and first inventor of said differences and they were adjudged to be patentable improvements, still these differences are only improvements: there is

NO CHANGE IN THE ESSENTIAL PRINCIPLE

of the machine. The improved Coté machine is still only the Moffitt machine, plus certain improvements which are not

described or claimed by Coté in his patent. What Moffitt has described and claimed is embraced in every Coté machine made even under these suppositions. The core and essence of the invention embodied in every Coté machine is, nevertheless, clearly shown and claimed in Moffitt's patent.

The untiring labors and the large expenditures of Mr. Moffitt in producing a perfect boot or shoe counter which has gone largely into commerce, and in developing a very large trade in this class of goods, is certainly entitled to consideration from whatever point of view we consider this case.

We cannot fully appreciate the quality of the invention, or the extent of the infringement, without entering into these considerations. From 1866 to the present time, Mr. Moffitt has devoted himself to the production of a counter shaped to the last and which could be put in place in the shoe without the labor of the laster in fitting it. To this end he gave his time, talents and money. In 1867, the idea first dawned upon him of shaping the counter in the true way, that is, by means of a former moving upon a centre; but, deluded by the prospect of getting a better counter by the moulding process, he worked in that line and with all the success possible until 1872. He was always in the same field of labor. He always had one point in view, viz., the production of a perfect counter, fit for use by the trade.

In 1872, it first became evident to him that the trade must have leather or leather-board counters, and these he knew could not be moulded. His early idea, however, met the requirement, and he took out the patent in suit. He has perfected the mechanism before us, and explored all the details by skilfully laboring to this end, giving the matter his exclusive attention. He has given to the task the prime

of his life, and more than twenty thousand dollars in money, up to 1875, which was often got as it was required, only after the severest struggles. As has already been said, he created the art and developed the great industry. Very nearly all the counters now made are

MADE BY THE USE OF A MOVING FORMER,

which was his creation, and which has been fitly termed the soul of his invention.

Whatever others or he himself may have since done they have done on the foundation he then laid. A moving former is all-essential: that he conceived and successfully applied. Take that from the defendants' machines and they are wholly useless. Mr. Moffitt has proceeded in this life task, with the patent laws and the courts of justice before him, believing that what they *should* do they *would* do — give him protection.

Protection under the law is all he seeks.

Mr. Moffitt has acted with honesty and uprightness throughout this controversy, as he did when he informed these defendants of their infringement at the beginning of their work in this field. They, however, have persisted in trespassing upon his rights and reaping the benefit of his labors, and he was forced either to submit and lose the rewards of his life work, or go into long years of litigation, which has been scarcely less ruinous.

If the law allows them to progress in this piracy, it will, as another has well said, emphasize the distinction between what is morally and what is legally admissible.

WM. A. MACLEOD,
of Counsel for Appellant.

George Harding

Supreme Court of the United States.

APPEAL FROM THE CIRCUIT COURT FOR THE DISTRICT OF MASSACHUSETTS.

IN EQUITY.

No. 291.

JOHN R. MOFFITT,
APPELLANT,

vs.

SAMUEL B. ROGERS, STEPHEN MOORE AND HOMER ROGERS.

DEFENDANTS' BRIEF.

CHAUNCEY SMITH,
THOS. L. WAKEFIELD,
Of Counsel.

DEDHAM:
W. L. WARDLE, LAW PRINTER, HIGH STREET.
1881.

Supreme Court of the United States.

APPEAL FROM THE CIRCUIT COURT FOR THE DISTRICT OF MASSACHUSETTS.

IN EQUITY.

No. 291.

JOHN R. MOFFITT,
APPELLANT,

vs.

SAMUEL B. ROGERS, STEPHEN MOORE AND HOMER ROGERS.

DEFENDANTS' BRIEF.

CHAUNCEY SMITH,
THOS. L. WAKEFIELD,
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DEFENDANTS' BRIEF.

This suit is brought for an alleged infringement of reissue Letters Patent, No. 6,162, dated Dec. 8, 1874, granted to John R. Moffitt for an alleged improvement in the manufacture of heel stiffeners for boots and shoes. The original letters were No. 127,090, dated May 21, 1872.

See record pp. 118 to 121.

The defendants have manufactured heel stiffeners under Letters Patent No. 147,906, dated Feb. 24, 1874, granted to Louis Coté, for an "improvement in machines for forming boot and shoe stiffeners," reissued June 2, 1874, No. 5,896, and second reissue Oct. 24, 1876, No. 7,356.

See record pp. 122 to 125, and drawings between pp. 120 and 121.

The defendants claim, —

1. That Mr. Moffitt was not the first and original inventor of what he claims in his patent. That his alleged invention, as described in his patent, was never perfected so as to accomplish the object claimed by him or produce any beneficial effect.

2. That the Coté invention shown in his patent was per-

fected and put into successful operation before that of Moffitt.

3. That the difference between the Moffitt reissue and original patent consists in the incorporation of certain elements of the Coté machine, and the reissue is not for the same invention as the original.

4. That the Coté machine used by defendants is substantially unlike that of Moffitt as claimed and set forth in his patent, and they have not infringed.

1. Construction of the patents.

(1.) Moffitt's original patent. He describes in his original specification the existing difficulties in the construction of counters his invention was designed to cure.

(1.) By reason of the peculiar shape of the counter required, a difficulty existed of getting an *equal and sufficient pressure on all parts of the counter, so as to get uniform hardness throughout.*

(2.) A further difficulty existed in getting a true and proper permanent form throughout all parts because the *material differs in character* in different parts.

His Pat. Sp.

The object of Moffitt's alleged original invention was to "make more perfect *ready made shaped counters* than could be made by any moulding process."

The machine or contrivance to accomplish this object was the apparatus described in the patent for *rolling to shape* the counters instead of *moulding*.

And the apparatus described consists mainly of "*a former, of a shape adapted* to give the *desired shape* to the counter and set eccentrically on a shaft," which is arranged to have a continuous or a reciprocating rotary movement, and beneath the former is placed a *roller* with or without an auxiliary *roll* on either side of the main roller, hung in proper bearings, and all so arranged that the former may be pulled down so as to give

any required pressure upon the blank placed between the former and the roller or rollers during the operation of the machine by reciprocating or revolving the former, and he says, "*Instead of shaping the stiffener in a mould, I employ no mould of any kind, but use a moving former.*" See his specification.

(3.) The specification further shows that one of the essential elements of Moffitt's machine to accomplish his object of making *more perfect ready-made shaped counters* was the *former*, set *eccentrically* upon a shaft projecting "further from its axis on one side than on the other, so as to conform nearly to the general form of the curve of the inside of the shaped counter," (see original specification p. 118, 2d column), and if both ends of the former be rounded, the operation is the same as if set eccentrically.

(*a.*) This is confirmed by Moffitt's Evidence, p. 33, Ans. 23, in reply to the question, "What led you to make application for your 1882 patent, No. 127,090, dated May 21, 1872?

"*Ans.* To cover the new process of *shaping counters*, and with a view to *shape them* at one operation."

And Ans. 24. He wished to protect himself in his new process of "*shaping counters.*"

(4.) The mode of *shaping the counters* by the Moffitt machine is carefully described, viz., "the counter piece being placed centrally upon the former." This "eccentric former" is permitted by the treadle strap "*to rise and fall as in its movement it rides and rolls over the surface of the counter.*"

And when the piece for the counter is prepared and placed on the "former" "a reciprocating rotary motion of something less than an entire revolution is given to its shaft so as to bring the most or all of the operating surface of the former into action."

(*a.*) If the former is rounded at both ends, and the shaft pass through the centre, then each end performs the same office as if one end was rounded and it was set eccentrically.

(5.) The "former" operated upon the blank placed between it and a *revolving* roller C, either with or without the auxiliary rolls C^1 and C^2, — having a profile as shown the converse of and conforming to that of the former.

(*a.*) The term "*roller*" necessarily implies that it was designed and made to *revolve*. It had a shaft which "had its bearings in the main frame D," and "*the rollers act on all parts coming between their peripheries.*"

See Specification, near end, Reissue.

Waters, Ev., pp. 13, 14, Ans. 12.

(*b.*) In the alleged Moffitt invention, it is an *essential requirement* to insure any degree of success, that in operating the machine the counter blank must be made to *adhere closely* to the former, after having been placed centrally upon it, and to move with it either in its revolving or reciprocating motion between it and the rollers. The blank cannot *be fed in endwise* by and between the former and the roller as in the Coté machine between the roller and the mould. And the Moffitt machine has no *effective provision* for thus causing the blank to adhere closely to the former in its operation, and this essential requirement must be supplied by the hand of the operator.

Hughes, p. 43, Ans. 19.

Spencer, p. 69, Ans. 82–84.

Waters, p. 97–100, Ans. 24.

(*c.*) In the Moffitt machine and alleged invention, the "former" is not corrugated nor circular in cross section.

State of the Art.

(1.) The specification discloses that, at the time of Moffitt's alleged invention, the *state of the art* had reached the point of producing *ready-made counters moulded to shape* for heels of boots and shoes, having the *peculiar shape required;* and the "greater fixedness of shape" and more perfect *preservation* of the *shape which the mould might impart* was one object of his

alleged invention.

See original specification following p. 118.

See reissue, specification near end, p. 121.

(*a.*) The evidence discloses the same.

Moore, p. 116, Ans. 7, Exh. S.

Pinkham, p. 115, Ans. 14 and Exh. R.

(*b.*) The Nichols Machine having a rotating former circular in cross-section applied by pressure to set the leather or leatherboard to shape for heel stiffeners was in general use in 1851, and many others also like it before and after 1851, and long before Moffitt's alleged invention.

Nichols Ev. pp. 159, 160, 161, Ans. 4 to 24.

Sheldon " pp. 162, 163, Ans. 5 to 15.

(2.) And the object of Mr. Moffitt's invention was to overcome those existing difficulties named.

Taking the *state of the art* as he found it, with a heel-shaped mould and former adapted to a dead pressure, and a former revolving upon a roll conforming in shape, as in Nichols' machine, he conceived the idea of curing existing difficulties by using the *heel-shaped former*, more perfectly shaped than is used in the mould, and his swinging frame in which the former was journalled, and treadle by which he applied his power adapted to the varying diameter of the former, by which he could give any required degree of pressure, with the former rising and falling as it " rides and rolls over the surface of the counter." He gave a new form to the " former," of a shape to give the " ready-made *shaped* counter " in place of the circular form used in the old Nichols machine and others like it, to wit: a form *heel-shaped;* but he could not use that shape of former in combination with rollers, unless he took the further step of swinging his eccentrically-shaped former in a frame, so that its axis might take different positions with respect to the roller with which it was combined, and allow all parts of its surface to be brought into contact with the roll.

This is the sum total of the Moffitt '72 Patent.

Exh. Nichols Machine, His Ev. and Sheldon's, *ante*.

The *invention* of Moffitt set forth in the first claim of the patent, *as claimed by his counsel*, consists in the discovery "that a *rotary or reciprocating former* applied by pressure would form and set leather and leather board to a desired shape." That instead of the moulding process, Moffitt made the discovery that the rolling action of a former produced upon leather and leather board an effect that had never been produced before, and could not be produced except by exactly that implement acting in that way as described in the patent; that is, as claimed, the application of a rotating former applied to shaping, hardening and solidifying leather or leather board. Hence it is claimed that a roller *circular in cross section* is equally within the scope of the patented invention as one *heel shaped* in cross section.

1. But the patent is upon the *machine*, *the device* with which he seeks to accomplish the end, and not upon the object he has in view to be accomplished by the machine.

2. If the scope of the patent covers *any machine* having a rotating or reciprocating former, either circular or heel shaped in cross section, applied by pressure to form and set leather or leather board to shape for heel stiffeners, then the Nichols machine anticipates Moffitt's, which was used in 1851, and many others like it as shown in Nichols' and Sheldon's evidence above referred to.

(1.) The Nichols machine gives form to the stiffener, the same as in Moffitt's, in each case the counter blank being held up to the former by hand during the operation.

(2.) If the scope of the Moffitt invention covers a cylindrical former, circular in cross section, then the difference in construction between the Nichols former and the Moffitt former is one of *degree*, and not invention.

Moore's Ev., p. 169, Ans. 7 to 11.

See Exhibit Moore Drawing.

(*a.*) The auxiliary rolls are not claimed by the patentee to be *essential to the invention*, but to be used or not at the option of the operator.

See Moffitt's original pat., p. 118.

(*b.*) Upon this theory of the invention, like machines have been used in rolling metals, in shaping them in different directions, long before the alleged invention by Mr. Moffitt.

Exh. Blood Pat. of Sept. 13, 1870.

(3.) In his specification Moffitt disclaims the *use of a mould of any kind*, and the former he describes *cannot be used* in a mould like Coté's. The mould cannot yield to conform to the varying distances of different parts of the former from its axis. The roll and the side or auxiliary rolls of Moffitt cannot operate as moulds with the former described in his original patent, since, as a necessary condition, they must yield as the distance from the axis increases, and return as it diminishes by the resiliency of the spring or operation of weights, and this without regularity or uniformity.

(4.) *The state of the art* shows what Mr. Moffitt sought to accomplish by his alleged invention and its scope.

(1.) The mould and former to give shape to the counter by dead pressure *were old.*

(2.) The revolving roll, circular in cross section, operating like Nichols' machine, *was old.*

(3) The machines for bending metals in two or more directions, like the Blood machine, *were old.*

(5.) Hence, Mr. Moffitt's invention, if any, consisted in the construction of a machine to give the heel shape to the ready made counters which the mould would give by dead pressure but more perfectly, by revolving the heel-shaped former against his roll or rolls with the blank between them, wholly dispensing with the mould of any kind — thus setting the counter to shape

by a "rolling pressure" instead of a "dead pressure"; that is,

(*a.*) To "make a more perfect ready-made shaped counter" than can be made by moulding "uniformly hardened and set to shape by a rolling pressure "*all in one operation.*"

(*b.*) This is established by Moffitt's evidence, page 33, Ans. 23, in which he says he was led to make application for the patent in question "to cover the new process of *shaping counters*, and with a view to shape them *at one operation.*

2. Cote's last Reissue.

In the Coté machine the principal elements important to consider are the rotary head, corrugated and circular in cross section and the stationary mould.

The counter is shaped by "pressing the blank by means of a roller or former against a stationary concave moulding surface, and at the same time moving or sliding such blank along against such surface," by means of the grooved rotary head; the mould having its inner surface very smooth, and when it is first to receive the leather or counter blank being rounded or made with a mouth as shown at c^1.

In the Coté machine there is no rolling action, but there is a mould acting in combination with a former into which mould the piece to be formed is drawn by the surface of the former, the piece being kept to that surface by the mould and the principal forming of the stiffener is accomplished by the very act of drawing it between the former and the mould, which correspond in form, not only in the direction *of the length*, but also in the *direction of the circumference* of the former, thereby causing the surface of the blank in contact with the concave surface of the mould to be stretched, and the blank to retain substantially the shape which it is compelled to assume in passing between the former and the mould.

Moffitt's corresponds only *in the direction of the length*,

Waters, 14, Ans. 12.

See specification.

(*a.*) This construction requires a circular concentric former and the *Moffitt former could not be used in it.*

(*b.*) And the counter blank must be entered *endwise.*

(*c.*) And *the product* of the Coté machine is not a ready-made counter *set to shape,* but of a circular form, to be *shap ed* by a subsequent independent operation.

Moore, p. 116, Ans. 9; p. 117, etc., and Ans. 12 to end.

Pinkham, p. 114, Ans. 9 to 12.

The Moffitt '72 Patent was merely a *paper patent;* it represented no invention or machine which had ever been perfected and *reduced to practice.* The only machines which have ever been built, as claimed by either side, in accordance with the patent, are now in Court, — Exhibit "A," produced by the defendants, and Exhibit Machine ~~No. 10 and~~ No. 4.

3. Moffitt's Reissue.

It is not for the same invention as the original. In this reissue, dated Dec. 8, 1874, some ten months after the Coté patent was issued, Mr. Moffitt made some marked changes in his specification. For the term "rollers C, C^1, C^2," he substituted "*supports* or *rollers* C, C^1, C^2," and wholly omitted the statement which was in the original, that the former projects further from the axis on one side than the other, so as to conform nearly to the general form of the curves of the inside of the shaped counter.

And the claim for a new article of manufacture is omitted in the reissue.

1. The specification of the reissue omits each element of the *former* in the original specification, which produces a heel-shaped counter, ready-made at one operation.

(*a.*) The phrase, "I employ no mould of any kind, but use a moving former, A, devised by me, of a shape adapted to give the desired shape to the counter, and set *eccentrically* on a shaft B," etc., is so changed in the specification for the reissue as to leave out the word "*eccentrically*," and is made to read "and set on the shaft B," thus describing a former, *circular in cross section*, as well as heel shaped.

Reissue Patent.

(*b.*) The original specification further says, "The former, a_8 will be seen, projects further from its axis on one side than on the other, so as to conform nearly to the general form of the curves of the inside of the shaped counter. This gives a rolling action in addition to the squeezing over the whole body of the counter."

In the specification for the reissue, this entire quotation is omitted, thus making no distinction between a former circular or heel shaped in cross section.

Compare original and reissue specification, near foot of second column.

(*c.*) The original specification says, "Beneath this former I place a roller C having," etc., making it optional to use more. The reissue specification says instead, "Beneath this former I place supports or rollers, C, C^1, C^2, [see Figs. 4 and 5], each having," etc., making it essential to use the three.

(1.) Thus, by the changes in the specification and claims of the reissue from those in the original patent, Mr. Spencer, the complainant's expert, is enabled to testify in substance that in his judgment and construction of the reissued patent, the rolls in the reissue constitute substantially a *mould*, adapted to a former circular in cross section, and the *heel-shaped former* described in the original, means a cylindrical former circular in cross section, thereby making both elements of the machine in the reissue distinctly the reverse of the same elements in the original.

(2.) It is manifest these changes were made in the specifica-

tion and claims to effect an enlargment of the scope of the pretended invention so as to include the Coté invention and machine, and make it possible for an expert to give a construction of the reissue which would include Coté. Andrews Ev., p. 81, Ans. 40 to 43 inclusive, in which he says: "*When I first met Mr. Moffitt he was contemplating the reissue of his patent, with a view to commence a suit against S. B. Rogers & Co., and we had conversation at various times about the matter.*" —Ans. 41.

And in Ans. 42, he says, in reply to the question, "*Whether or not, in considering what claims to make, reference was made directly to the Cote machine?*"—"*Certainly, I intended to state that in my last answer.*"

This reissue patent was issued Dec. 8, 1874, and Coté's original patent was issued Feb. 23, 1874, some ten months previous.

No machine under Moffitt's said patent had ever been made or used until long after the Coté's patent was issued and his machines in general use. And it cannot be claimed that his invention is any broader that his original specification and model indicate.

Moffitt, p. 40, 41, Ans. 81–89.

Moffitt's reissue, so far as it differs from the original, is not for the same invention described in the original, and if it is not for the same invention the reissue is void.

U. S. Rev. Stat., Sect. 4916, p. 959.

(1.) Reissued Letters Patent must, by the express language of the statute, be for the same invention as the original; and when it appears, on a comparison of the two patents as matter of legal construction, that the reissued patent is not for the same invention as that embraced and secured in the original patent, the reissued patent is invalid; as that state of facts shows that the commissioner, in granting the reissue, exceeded his jurisdiction. And whether the reissue is for the same invention as the original or not is a question for the Court in an equity suit, to

be determined as a matter of *construction*, on a comparison of the two instruments.

Seymour *v.* Osborne, 11 Wallace, 544–546.
Sickles *v.* Evans, 2 Clifford, 203–222.
Russell *v.* Dodge *et. al.*, 3 Otto, 460.
Russell *v.* Place *et. al.*, 4 Otto, 606.

"The Court will look beyond the mere form of words in the claim of a reissued patent into the specifications of both the original and reissued patents; and even if on the face of the reissued patent it does not embrace anything not described or suggested in the original, nevertheless the Court will ascertain whether there is any substantive invention adequate to support a claim ingeniously worded, not so much for the purpose of describing what the patentee really intended, as of grasping within its terms some contrivance not within the knowledge or contemplation of the patentee, and for that reason, not by reason of inadvertance or mistake, not embraced in the claims of the original patent."

Forsyth *v.* Clapp, 1 Holmes, 283–4.

Moffitt's reissue has the term "supports or rollers," instead of the term "rollers" in the original, and omits the description of an "eccentric former," which are two distinct elements of his device, whereby he now claims a construction of his reissued patent identical with that of the Coté reissue. He claims that the "*supports*" operate as the "*mould*" in Coté's machine, and that the "former adapted to give the desired shape to the counter" may be circular in cross-section like Coté's, and that the former must be made corrugated or grooved as a matter of mechanical construction, obvious to any mechanic skilled in the art.

Spencer, p. 64, Ans. 58 to 61.

That the roughening of the surface of the rolls is an obvious mechanical expedient.

Spencer, p. 63, Ans. 52–53.

Spencer, pp. 100–101, Ans. 2. — that the supports or rollers *need not revolve*. Spencer, p. 64, Ans. 54, 55, 58–7. — that the term *supports* indicate a device which does not revolve. Spencer, p. 64, Ans. 58 to 61. — that the blank may be entered *endwise* in conformity to Moffitt's reissue. Spencer, Ans. 66, p.65.—that the round former is as properly within Moffitt's reissue as heel-shaped former. Spencer, p. 106, Ans. 18. — that the term "support" in the reissue embraces some kind of supporting device *which is not a "roller."* Spencer, pp. 64–65, Ans. 58 to 63.

(*a.*) If this construction of the the reissue is correct, it obviously is not for the same invention as the original, and the patent is void.

(*b.*) If it is not void on this account, then the language used must be construed to give no broader scope than the original.

Claims in reissue broader than in original. All not in original dedicated to the public. Miller & Co. v Bridgeport Glass Co. 21 O.G. 201-2. James v Campbell 21 O.G. 337. Burr v Duryee 1 Wall. 577

FRAUDULENT REISSUE.

The original Letters Patent was not surrendered to correct any mistake or inadvertence therein, but to claim other alleged inventions or improvements, not made or discovered by complainant, and were surrendered with the fraudulent intention to pirate the invention of Coté in the reissue, to deceive and mislead the public, and with a *view to commence this suit;* and it *was considered what were the best claims to make for that purpose.*

Andrews, p. 81, Ans. 40 to 43.

In the winter of 1874 and 1875 Moffitt *discussed the question of* employing the partial matrix or mould in his machine, which matured into Exhibit Machine No. 5, and whether or not he could in such use avoid liability for infringement of the Coté patent.

Andrews, pp. 79 to 80, Ans. 20 to 40.

Similar discussion was had by Moffitt at about the same time

about "toothing" the former, which would produce the same effect as corrugating or grooving.

Andrews p.81, Ans. 40.

(3.) *To repel this inevitable conclusion*, that these changes in the reissue from the original were made by Moffitt to cover Coté's invention within its scope, the complainant attempts to fortify his claims to the invention shown in the Coté machine by his present claim that he *really made the invention* secured by his patent of May 21, 1872, reissued Dec. 8, 1874 in 1867, in connection with his machine for forming heel cases for rubber heels, having a cylindrical former.

(4.) *To establish this position*, Mr. Moffitt testified in his original evidence, page 32, Ans. 15, in substance, that no change has been made in the machine marked "Exhibit Machine No. 3," except that the rollers or formers were taken out by another party without his consent, and he had those two put in just like what was originally in there, and the machine is now just like what it was in 1867, when he made counters and casings upon it. And Moffitt, p 32, Ans. 9.

2. The newly discovered evidence upon this point shows that the only elements of Exhibit Machine No. 3 material to this issue, viz., the *presser bar* on the machine, and the construction of the rolls adapted to the making of metallic counters upon it, were *wholly wanting* in that original machine, of 1867, and no such metallic counters were then made upon it, and the construction of the rolls was such that such counter *could not have been made upon it*.

Wise, Ev., p. 126, Ans. 13–17
Andrew M. Cary, Ev., p. 144, Ans. 25–29
John Ashman, " p. 153, Ans, 8–10 and p. 154, Ans. 21, 22.

The original machine claimed by Mr. Moffitt to have been made in 1867, and to be the identical Exhibit Machine No. 3, [except the new rolls], was in fact like "Exhibit Wise Ma-

chine."

(*a.*) Wise made it, and he alone used it. [His Ev., *ante.*]

(*b.*) Cary and Ashman worked with Wise on same bench; saw and examined the machine so made.

(*c.*) The rolls were constructed as shown in Exhibit Wise Model, with a shoulder at base of the convex roll, so constructed that a counter could not be made upon them.

Wise, Ev., pp. 126, Ans. 12, and p. 127, Ans. 22.
Cary, " p. 144, " 25 28
Ashman " p. 154, " 21, 22

(1.) No metallic counters were made on the 1867 machine.

Wise, Ev., p. 126, Ans. 12
Ashman, " p. ~~143~~154' 18
Cary, " p. ~~127~~144' 24

(*a.*) These three witnesses were in a position to know.

With Wise it is not a matter of recollection of what he had seen, but personal knowledge of what he did.

(*b.*) Cary and Ashman were with him when the machine was made; it was a new thing, and excited their curiosity and fixed their attention and memory.

(2.) Defendants further show that the Exhibit Machine No. 3 was *wholly made new*, except the blocks in which the rolls are journalled, in 1875, or later.

Emery, Ev., pp. ~~163~~, 164–5, Ans. 7–27.
Matterson, " p. 194–5, Ans. 64–69.

(*a.*) Then instead of its being the identical machine made in 1867, except the rolls, no part of it was identical except the block in which the rolls were journalled.

(*b.* After this is proved, Moffitt is recalled and states on each material part substantially the same, in direct contradiction of his former testimony [Moffitt, Ev., p. 208, Ans. 2], and when the machine was made over again it was taken to his counsel's office for evidence.

about "toothing" the former, which would produce the same effect as corrugating or grooving.

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(*b.* After this is proved, Moffitt is recalled and states on each material part substantially the same, in direct contradiction of his former testimony [Moffitt, Ev., p. 208, Ans. 2], and when the machine was made over again it was taken to his counsel's office for evidence.

Moffitt, Ev., p. 226, Ans. 116.

(3.) Moffitt had sworn in his original evidence that he made metallic counters, like Exhibit Moffitt No. 1, on his original machine in 1867.

(*a*.) This is contradicted by Wise, Cary and Ashman.

(1.) They never knew of such counters being made.

(2.) Wise was the only one who used the machine while in his charge, and he never made any such counters nor knew of any being made.

(*b*.) Moreover, the rolls were so constructed that counters like Exhibit Moffitt No. 1 could not have been made on the machine.

(*c*.) The witnesses for complainant, introduced to confirm Moffitt as to the likeness of the 1867 machine to Exhibit Machine No. 3, are indistinct in recollection and uncertain, from the great length of time which has elapsed, and slight attention given by them to the machine when they saw it. This is disclosed in the cross-examination of each witness.

A machine is placed before them,and they are asked by complainant if they have ever seen the like before, to which some kind of an affirmative answer is made. The sight of the machine, aided by their previous conversations with complainant, enables them to assent to the required answer, although ten or twelve years had intervened to obscure a recollection of things which were never impressed upon the memory. Such evidence can have but little weight.

Tetlow, Ev., p. 174, Ans. 40
Bisbee, " p. 178, " 34
Collett, " p. 183, " 40–46
Allyn, " p. 191–2 " 17–25
Peverly, " p. 198, " 25–34
Salisbury, " p. 229, " 31–35
Woods, " p. 205, " 16–21

(*d*.) But among them all, *not one* could remember anything

about *any space between the base of the convex roll and the plate or block beneath it, by which means it would have been possible to make a metallic counter like Exhibit Moffitt No. 1.*

Tetlow, Ev., p. 174, Ans. 36
Bisbee, " p. 178, " 34
Collett, " p. 183, " 42–46
Allyn, " p. 191-2, " 17–25
Peverly, " p. 198, " 25–34
Woods, " p. 205, " 20
Salisbury, " p. 229, " 31–35

And no one has testified to ever having seen or known of a metallic counter being made thereon.

(*e.*) Those of them that recollected anything of a handle or bar corresponding to any extent with the pressure bar on Exhibit Machine No. 3, had but little or no knowledge as to its having a piece upon it extending partially between the rolls, or if it had, whether it was adapted to the former, and they differed as to the form of the bar.

Bisbee, Ev., p. 178, etc., Ans. 31–35
Collett, " p. 184, " 49–59
Allyn, " pp. 191-2 " 18–27
Peverly, " p. 198 " 25–27
Woods, " p. 207, " 49–52, & p. 205, Ans. 16
Salisbury, " p. 229, 229 " 38–42
Tetlow, " p. 172, " 3

(*f.*) This *bar* referred to by the witnesses may have been the *wrench used upon the eccentric bushings* in which the rolls were journalled, instead of a pressure bar.

Wise, Ev., p. 231, Ans. 3–7
Salisbury, " p. 230, " 40-1 and pp. 238-9, Ans. 2 to 7.

(4) That original invention and machine of 1867, whatever it was, *was totally abandoned*, and resurrected only after Coté's invention had been given to the public.

(*a.*) Moffitt fails to produce the pretended *pressure bar* or

Moffitt, Ev., p. 226, Ans. 116.

(3.) Moffitt had sworn in his original evidence that he made metallic counters, like Exhibit Moffitt No. 1, on his original machine in 1867.

(*a.*) This is contradicted by Wise, Cary and Ashman.

(1.) They never knew of such counters being made.

(2.) Wise was the only one who used the machine while in his charge, and he never made any such counters nor knew of any being made.

(*b.*) Moreover, the rolls were so constructed that counters like Exhibit Moffitt No. 1 could not have been made on the machine.

(*c.*) The witnesses for complainant, introduced to confirm Moffitt as to the likeness of the 1867 machine to Exhibit Machine No. 3, are indistinct in recollection and uncertain, from the great length of time which has elapsed, and slight attention given by them to the machine when they saw it. This is disclosed in the cross-examination of each witness.

A machine is placed before them,and they are asked by complainant if they have ever seen the like before, to which some kind of an affirmative answer is made. The sight of the machine, aided by their previous conversations with complainant, enables them to assent to the required answer, although ten or twelve years had intervened to obscure a recollection of things which were never impressed upon the memory. Such evidence can have but little weight.

Tetlow, Ev., p. 174, Ans. 40
Bisbee, " p. 178, " 34
Collett, " p. 183, " 40–46
Allyn, " p. 191–2 " 17–25
Peverly, " p. 198, " 25–34
Salisbury, " p. 229, " 31–35
Woods, " p. 205, " 16–21

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Salisbury, " p. 230, " 40-1 and pp. 238-9, Ans. 2 to 7.

(4) That original invention and machine of 1867, whatever it was, *was totally abandoned*, and resurrected only after Coté's invention had been given to the public.

(*a.*) Moffitt fails to produce the pretended *pressure bar* or

1867, or the *rolls*, or a single vestige of any of the original 1867 machine, which are material elements in this case.

(*b.*) To overcome this embarrassment, and at the same time the suggestion of abandonment of whatever he had, he changes his original evidence that the rolls were taken away without his consent, and now, with the aid of Matteson, puts them carefully away in a keg with the pressure bar, and insinuates that Wise stole the keg.

(*c.*) This insinuation is repelled by Wise.

Wise, Ev., pp. ~~23-24~~, Ans. 11 to 26
Moffitt, " pp. 214-215, " 32 to 35

(*d.*) The machine had been taken apart, portions used for other purposes, — sold at auction with old iron or put away with old scraps.

Wise, Ev., p. 128, Ans. 30-33
Cary, " p. 144-5, " 34-41
Bisbee " p. 176, " 12-16; and p. 177, Ans. 24, it was sold at auction.
Salisbury, " p. 228, Ans. 21-24, and p. 239, Ans. 7-15

Whatever Moffitt's invention of 1867 embraced, no part of it was embodied in his alleged invention, specification or model of the original patent of 1872; and as that invention was never reduced to practice, he must be limited strictly to the machine, elements and apparatus devised and described in his patent.

The rule of law applicable is laid down in O'Reilly *v.* Morse 15 Howard's Reports, p. 119, viz.: " Whoever discovers that a certain useful result will be produced in any art, machine, manufacture or composition of matter, by the use of certain means, is entitled to a patent for it, provided he specifies the means he uses in a manner so full and exact that any one skilled in the science to which it appertains can, by using the means he specifies, without any addition to or subtraction from them, produce precisely the result he describes; and if this cannot be done by the means he describes, the patent is void."

(5.) If Moffitt had made the Exhibit Machine No. 3, or an-

other like it, why did he get his patent in suit of May 21, 1872, *wholly ignoring the pressure bar and the provision for making a heel seat, which were absolutely essential elements to make the machine operate* successfully for making counters?

(*a.*) Moreover, he expended large sums of money before he reached the perfection of his Exhibit Machine No. 5, which involves the same substantial mode of operation as his Exhibit Machine No. 3.

He commenced developing the business with a revolving former in June, 1873.

This was experimental for making counters at each end of the former at the same time from pulps and from leather board, at a cost of $1,500, and from four to six months' time, patented July 21, 1874.

This was a failure, and abandoned.

Moffitt, p. 34, Ans. 25, 27-28.
Moffitt, p. 39, Ans. 67 to 70.

He next, commencing about beginning of 1874, built two machines which formed a counter by means of a female mould with a revolving former passing over its inner surface; and on these machines he spent about $3,000, and six months' time; but these machines were abandoned as a failure. This was after Coté's application, Jan. 3, 1874, and patent, Feb. 24, 1874, p. 24.

Moffitt, p. 34, Ans. 29 to 32.

His next machine was made in summer and latter part of 1874, substantially like his patent of 1872, in suit, *except he put supports between the auxiliary rolls and made his former a true circle;* this he experimented with sufficiently to satisfy him that his idea of forming counters by two operations was the true way, and this was abandoned.

Moffitt, p. 39, Ans. 72 to 74.

His next machine was commenced in the latter part of 1874 and completed in the early part of 1875, represented by Ex-

hibit Machines No. 5 and 6, which has been operated successfully with some additional devices.

Moffitt, p. 34 and 35, Ans. 32 to 35.
Moffitt, p. 39, Ans. 74.

To reach this point of success he had expended about *four years* of time and about $21,000 to $23,000 in money. He *abandoned* his alleged invention claimed in his patent of 1872 in suit, and devoted this long time and great sum of money to produce a successfully operating machine, shown in Exhibit Machine No. 5. *At about the same time*, viz., Nov. 23, 1874, he made his application for his reissue, which was granted Dec. 8, 1874, while he was constructing his successful machine, Exhibit No. 5.

(*c.*) But this machine, finally reached, which proved successful, represented by Exhibit Machine, No. 5, has in it the *mould* and revolving former circular in cross section, substantially the same as the Coté machine, and is made effective thereby, *entering the blank endwise.*

Waters, p. 92, Ans. 8.
Spencer, p. 70-71, Ans. 95 to 105.
See Exhibit C and Exhibit Machine No. 5.

The mould or matrix in this No. 5 is ~~not lower~~ *narrower* than in the Coté machine, but has the same function. And the additional roller in Exhibit Machine 5 and the former operate as feed rollers; and this additional roller may be dispensed with by corrugating the other roller and operating it as in the Coté machine.

Waters, p. 92, last part, Ans. 8.
Andrews, p. 80-81, Ans. 36 to 40.

But this machine, Exhibit Machine No. 5, is not substantially like Moffitt's reissue.

Waters, p. 97–99, about middle of Ans. 24.

Mr. Moffitt never perfected his alleged invention, and was not a first and original inventor of what he claimed; the alleged

invention described in his patent will not accomplish the object claimed by him, nor produce any beneficial effect.

(1.) This appears from his own estimate of it, as shown by his acts from the date of his patent in 1872 until the issue of the Coté patent, and his appropriating its principle in Exhibit Machine No.5. Why the expenditure of more than $20,000 and four years of time, to get a successfully operating machine, if his patented invention had not been a failure? If it had been what he now claims, identical with the Coté machine, it would have turned out 6,000 counters a day, equal to Exhibit I.

Hulburt, p. 26, Ans. 7.

(2.) He never built a machine like his said patent until that marked "Exhibit Machine No. 4," which was constructed to be used as an exhibit in this case, and was completed in June, 1877, and none ever has been put into use.

Moffitt, p. 40, Ans. 81 to 89.

(*d.*) The machine described in the patent in suit is shown in Exhibit C, and with certain modification in Exhibit Machine No. 4, both of which are failures in the accomplishment of the objects claimed by the patent.

Waters, pp. 12-13, Ans. 4 to 12.

See also Exhibit D, which is the product of Exhibit C.

Mr. Spencer thinks Mr. Waters is mistaken in this respect, and produces Exhibit Machine No. 4 as the embodiment of the patented invention, and the counters marked "Exhibit Spencer No. 1," made by him.

This was done when the heel-shaped reciprocating former was in the machine.

He also produces Exhibits K and L, as made by him on Exhibit Machine No. 4 while on the stand.

Spencer, p. 60, Ans. 32 to 34.

Hughes produced six pairs made by him on Exhibit Machine No. 4, marked "Exhibit Hughes, No. 6."

Hughes, p. 43, Ans. 13.

These exhibits were all made by Spencer and Hughes, in June 1877, in presence of complainant's counsel, for exhibits in this case.

The blanks were *notched* before being put into the machine.

Spencer, p. 60, Ans. 34.
Hughes, p. 44, Ans. 29, 30, etc.

But Spencer No. 1, and Hughes No. 6, exhibits are not merchantable, and are worthless as counters.

Andrews, pp. ~~28-8~~ 82-3, Ans. 49 to 52.
Waters, p. 89, Ans. 4.
Moore, p. 116, Ans. 10.

And were not valuable in 1872 and 1873.

Pinkham, pp. 114-5, Ans. 12.

The counter marked "Exhibit Hill" is not a fair specimen of connters made by Hill & Brown in 1872 and 1873, and not merchantable, nor such as were used in the trade at that time.

Pinkham, p. 114, Ans. 6, 7.

Moore, p. ~~181~~ 113, Ans. 4, 5 and Ex. S, *which was made from the same machine used by Moore*, directly after the use by Hill & Brown, and a fair sample of Hill & Brown's.

Moore, p. 115–16, Ans. 6, 7.

Exhibit Machines Nos. 1 and 2 and No. 3 are different in their operations from the Moffitt reissue.

Waters, p. 89, Ans. 5; p. 97–100, Ans. 24.

Nos. 1 and 2 are used with an outside speeded roller, to produce great friction upon the counter while the machine is in operation.

Hughes, p. 44, Ans. 32, and p. 42, Ans. 8.
Waters, p. 89, Ans. 5.

Exhibit Machine No. 3 is not the patented invention, and totally unlike it.

Waters, p. 91–92, Ans. 7.

In this machine the two rollers operate as feed rollers to drive forward the material against a stationary surface, which can be brought to press against the material to be operated on upon one of the feed rollers for the purpose of shaping it. It was for making metallic counters, and the flange so narrowed that it would require relasting in the shoe to turn a wider flange; and hence the counters produced as exhibits made on either Exhibit Machine No. 1 and 2 or No. 3, *are wholly immaterial.*

Exhibit Machine No. 1 and 2 dispenses with the auxiliary rollers which *Mr. Spencer says is the best form of the Moffitt machine; and the forming to shape in the direction of the former is done by the hand.*

Spencer, p. ~~73~~ 69, Ans. 82 and 84.
Waters, p. 98.
Moffitt, p. 37, Ans. 49.

This machine, Exhibit Machine 1 and 2, and the Moffitt machine with a single roller C, embodied no new invention, — since by the *state of the art* in the use of rollers operating together for rolling shoe sole,etc.,the same substantial machinery was in use, and the form is given to the counter *by the hand*, and not by the machine.

Waters, pp. 97–100, Ans. 24.

Moffitt's final experiment, his first successfully operating machine Exhibit Machine No. 5, produces no *more counters per day than* Coté's machine, Exhibit C.

Hughes, p. 42, Ans. 7, on Exhibit No. 5.
Hurlbut, pp. 26–27, Ans. 7 and 12, on Exhibit C.

(*d.*) The Coté machine, Exhibit C, makes a *clearly defined heel seat*, as shown in Exhibit I, made upon it.

While the Moffitt machine, Exhibit A, and modified as in Exhibit Machine No. 4, fails utterly in that particular as well as otherwise. Shown in Exhibits K, L, D, Spencer No. 1 and

Hughes No. 6.

Moore, p. 116–117, Ans. 10, 11.
Andrews, p. 82–83, Ans. 49, 50, 51, 52.
Pinkham, p. 114, etc., Ans. 12.

Complainant replies to the evidence of the worthlessness of the counters made on Exhibit Machine No. 4, by a new batch of experimental counters produced.

Exhibit Spencer No. 9, Spencer, p. 102, Ans. 5.

But Exhibit Machine No. 4 was essentially changed when Exhibit Spencer No. 9 were made from what it was when Exhibits K, L, D, Spencer No. 1, and Hughes No. 6 were made.

Spencer, p. 102, Ans. 5, p. 106–7, Ans. 17 to 22.

The former and its supports are not the same ones. The former is corrugated, and circular in cross-section. The supporting roller has a broader flange, and adapted to make a more defined angle. The bearings at one end of the auxiliary rolls are removed and the rolls supported by a backing of a Babbitt metal along the outer side, made necessary by the increased width of the flange on the main roller, thus *compacting the rollers* and changing the whole arrangement from that described in Moffitt patent or shown in the original Exhibit Machine No. 4, or in the model, Exhibit G, or Exhibit A.

Spencer, p. 102, Ans. 5; p. 106, Ans. 17 to 22.

And Exhibit Spencer No. 9 is worthless, — too straight back, too narrow heel seat, and too flaring compared with Spencer No. 1, Hughes No. 6, and the evidence referred to relating thereto.

IV.

The defendants *have not infringed* the complainant's patent.

(1.) The Coté invention and machine does not contemplate the forming of a *ready-made shaped counter*, but the partial formation of a counter, circular in cross-section, to be *shaped* by a subsequent operation.

And the counter is not produced by a *rolling* action, like

Moffitt's, by carrying the material back and forward by the bite between two rollers, but by seizing the end of the counter blank by the corrugations of the former as it enters between the former and the mould, which are substantially parallel, and dragging the material endwise into the mould, and forcing it to take the form of the two surfaces of the mould formed by the matrix and former. While the former holds the blank upon the inside by its corrugations, its revolution causes the outer surface of the counter to slide upon the surface of the mould.

Coté's is a *sliding*, Moffitt's a *rolling* action.

The theory of Moffitt in his '72 Patent is, that rolling the counter between a heel-shaped former and a conforming concave roll will produce a ready-made, shaped counter. The mode of operation described is the well known mode which any pair of rolls have upon leather or paper. The former and the conforming roll transverse over the counter blank, carrying the counter with them, going from line to line; as fast as a new line is released from compression; the action is equal upon the inside and outside of the counter. They may either of them slip upon the counter the same as any pair of rolls may slip upon leather or paper which is being rolled. The auxiliary rolls in the Patent are so arranged that their lines of motion, when acted upon by the rotation of the former, are toward and from points some distance outside of the axis of the former, and the portion of the bar which carries said rolls projecting some distance above its bearing. The effect of a rotation or reciprocation to any considerable extent of said former would have a tendency to throw the auxiliary rolls laterally away from the former at a line different from that which would be endwise of the bars which carry said rolls, and thereby cramping said bars in their bearings, and prevent the desired endwise motion to some extent, and be likely to cause the former to be raised from the central supporting roll, and prevent a good or effective action upon the counter blank interposed between them, such as would be necessary to produce a merchantable counter.

In working the Coté machine, there is constantly a slight curl

of the counter blank in front of that part of the mould which surrounds the smallest part of the ball. This fullness of curl is constantly seized by the teeth or corrugations on the former and formed into slight plaits, which are driven into each other as the counter is shoved into the mould, and that part of the counter is shortened while that part of the blank which surrounds the large part of the ball or former is stretched. And further, in the action of the Coté machine there is no action of the former upon the inner surface of the counter, except to press the teeth of the former into the blank. This is accomplished as soon as the blank is fully entered between the former and the mould, and from that point until it emerges from the mould the counter blank becomes, as it were, a skin or tire upon a ball. There is no movement of the *former* upon the surface of the counter, while the *mould* has a universal rubbing action over the whole exterior surface of the counter.

(2.) This is manifest from the construction of the two patents.

And confirmed by an inspection of the Coté machine made according to his patent, Exhibit C, as compared with Exhibit A, the model G, or exhibit Machine No. 4, and by Mr. Waters' evidence.

Waters, pp, 14–15, Ans. 12.
Waters, p. 16–17, " 17.
Waters, pp. 23, 24, " 56, 57.

The Moffitt machine, like the description in the patent, mode G, or Exhibit A, can form no defined heel seat.

Waters, p. 12, Ans. 5.
See machine and model, and Exhibits B made upon it.

It is well settled that no patent which has not been reduced to practice will cover any device other than that described in the specification and drawings or its substantial equivalent.

An infringement will not have taken place unless the invention can be practised completely by following the specification; otherwise, it has been said, it would be an infringement to do that perfectly, which, according to the specification requires

something else to be done to make it perfect.

If it cannot completely be done by following the specification tehn a person will not infringe the patent by doing it completely.

Curtis on Patents, 4th Ed., p. 272, Sec. 237, and *notes*.
Morgan *v.* Seaward, Web. Pat. Cas. 107, 181.

CHAUNCEY SMITH,
T. L. WAKEFIELD,
Of Counsel.

Supreme Court of the United States.

APPEAL FROM THE CIRCUIT COURT FOR THE DISTRICT OF MASSACHUSETTS.

IN EQUITY.

No. 37.

JOHN R. MOFFITT, APPELLANT,

v.

SAMUEL B. ROGERS, STEPHEN MOORE AND HOMER ROGERS.

DEFENDANTS' BRIEF.

CHAUNCEY SMITH,
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Of Counsel.

BOSTON:
ALFRED MUDGE & SON, LAW PRINTERS, 34 SCHOOL STREET.
1882.

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APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MASSACHUSETTS.

DEFENDANTS' BRIEF.

This suit is brought for an alleged infringement of reissue Letters Patent, No. 6,162, dated Dec. 8, 1874, granted to John R. Moffitt for an alleged improvement in the manufacture of heel stiffeners for boots and shoes. The original letters were No, 127,090, dated May 21, 1872.

See record, pp. 118–121.

The defendants have manufactured heel stiffeners under Letters Patent No. 147,906, dated Feb. 24, 1874, granted to Louis Coté, for an "improvement in machines for forming boot and shoe stiffeners," reissued June 2, 1874, No. 5,896, and second reissue Oct. 24, 1876, No. 7,356.

See record, pp. 122–125, and drawings between pp. 120 and 121.

The defendants claim, —

1. That Moffitt's alleged invention, as described in his original patent, was never perfected so as to accomplish the object claimed by him, or produce any beneficial effect.

2. That Mr. Moffitt was not the first and original inventor of what he now claims under his reissued patent, to have been his invention; that the Coté invention shown in his patent was perfected and put into successful operation before that of Moffitt, and if the Coté machine be held to be substantially like Moffitt's, Coté anticipated Moffitt in the invention.

3. That Moffitt's reissued patent is not for the same invention as the original, and the difference between his reissue and original consists in the incorporation of certain elements of the Coté machine by Moffitt in his reissue.

4. That the Coté machine used by defendants is substantially unlike that of Moffitt as claimed and set forth in his patent, and the defendants have not infringed.

The points in issue *involve the construction of the patents*, to which the *state of the art* is essential.

STATE OF THE ART.

1. Previous to Moffitt's alleged invention, the *state of the art* had reached the point of producing *ready-made counters molded to shape*, for heels of boots and shoes, having the peculiar shape required.

(*a.*) The Hatch patents of 1871 and 1872 were upon a machine, and for the counters made upon it of that character. Exhibit S is a counter made on that machine, known also as the Hill and Brown machine, in 1873 and illustrates the state of the art in 1871.

Moore's Ev., p. 116, ans. 5 to 9 inclusive.
Pinkham, pp. 114, 115, ans. 3 to 14 inclusive, and Exhibits Hill and R.

(*b.*) Moffitt's original and reissue specifications disclose the same, in which he speaks of "*molding* to shape ready-made counters," etc., and predicates his invention on *rolling* the counter to shape instead of *molding* and says, "instead therefore of *shaping the stiffener in a mold*, I employ *no mold* of any kind, but use a moving former," etc., and stating his object to be, to make *more perfect ready-made shaped counters* than can be made by any *mold-*

ing process. Moffitt knew of leather board counters in market in 1871 and rubber ones before that.

His Ev., p. 33, ans. 19, 20.

Ready-made counters *molded to shape* by placing the counter blank across the opening of the mold and forcing it into the mold by a plunger or former, or by placing the blank upon the back of the stationary former and forcing it around the former by the action of the mold, was a matter of common knowledge at the time of Moffitt's alleged invention.

2. Previously, counters had been set to shape by *rolling pressure.* The Nichols machine having a rotating former, circular in cross section applied by pressure against another circular roller conforming to the former longitudinally, to set the leather or leather board to shape for heel stiffeners was in general use in 1851, and many others also like it, before and after 1851, and long before Moffitt's alleged invention.

Nichols' Ev., pp. 159, 160, 161, ans. 4 to 24.

Sheldon's Ev., pp. 162, 163, ans. 5 to 15.

Nichols' Ev., p. 158: "*Int.* 4. Will you now look at the machine marked 'Exhibit Nichols Machine,' and state what you know of that machine?

"*Ans.* This machine I bought. I prefer it in preference to all other straight rollers, because it crimped the stock I rolled, more especially the counters, the stiffeners, by putting your hand on the stiffeners when they are passing through the rolls to make them more concave, to concave the stiffening." . . .

"*Int.* 5. When did you buy it?

"*Ans.* About 1853." . . .

"*Int.* 7. Was the machine when you bought it just as it is now, with the exception of wear?

"*Ans.* Yes, sir.

"*Int.* 8. How constantly have you used that machine since you bought it in 1853?

"*Ans.* Most all of the time, excepting when I was in the army.

"*Int.* 9. Do you mean as you had occasion to use a rolling machine of that character?

"*Ans.* Yes, sir.

"*Int.* 10. What did you use it for?

"*Ans.* I used it for rolling the leather and crimping it to the form of the last, for soles to fit the last, and crimping the stiffenings.

"*Int.* 11. Will you go to the machine and point out how you used it for rolling soles, and also for crimping the counters for the heel?

"*Ans.* This is the way I roll it for the sole. I put the leather in endwise on the side opposite the apron and turn the crank, thereby causing the blank to pass between the two rollers, delivering it upon the apron. Now for counters. I start on the other side, and to crimp them I put my hand on them, holding the blank down as it is passed through over the convex roll." . . .

"*Int.* 16. Whether or not there is any convenience in having the convex roll underneath rather than above in crimping the counters?

"*Ans.* With the convex roll on top it would be better for shoe makers on account of more especially the crimping of the stiffening, it being handier to put your hand on the counter while it is passing through, and holding it up to the roll.

"*Int.* 17. How were the machines which you have seen substantially like said exhibit generally constructed, — with the convex roll above or below the concave roll?

"*Ans.* I have seen them made both ways; I should think they were made one way as much as the other, — about half each."

The witness then names some eighteen or twenty different parties who had been using like machines from ten to twenty-five years, and adds: —

"*Int.* 20. Who manufactured machines like said exhibit, at or about the time you purchased yours, and who since if you know?

"*Ans.* George W. Fitz, of South Hampton, N. H. I don't know of any one else."

"*Int.* 21. How long did he manufacture such machines, to your knowledge?

"*Ans.* He commenced manufacturing these machines as soon as the year 1837; he was at work at it four or five years most all of the time."

Mr. Sheldon's evidence is confirmatory of Nichols as a manufacturer of the machines like Exhibit Nichols Machine.

(*a.*) Metals and other material had been set to shape by rolling pressure long before Moffitt's invention.

See Blood's patent No. 107,216, Sept. 13, 1870, Ev., p. 171.

(*b.*) And flanged by substantially the same process and mechanism now claimed by Moffitt.

CONSTRUCTION OF MOFFITT'S ORIGINAL PATENT.

He states in his specification: "In molding to shape ready-made counters or stiffeners for heels of boots and shoes, made of various materials, but usually of waste bits of leather, a difficulty exists by reason of the peculiar shape required in getting an equal or sufficient

pressure upon all parts of such counter, so as to get uniform hardness throughout; and also a further difficulty in getting a true and proper permanent form throughout all parts, because the material will differ in character in different parts of the same counter, some of it, especially in leather, being of a more spongy nature than other parts. This difference or lack of homogeneity prevents a uniform solidity and precludes the true preservation of the shape which a mold may impart.

"The object of my invention is not only to make more perfect ready-made shaped counters than can be made by any 'molding' process, but also to make a new article of manufacture, viz, a 'rolled' counter, prepared, solidified, and uniformly hardened and set to shape by rolling pressure, such rolling action producing a new as well as better article, and admitting of producing the same from material hitherto found too intractable, such as leather board, sheet metal, etc. Instead, therefore, of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving 'former' A, devised by me, of a shape adapted to give the desired shape to the counters and set eccentrically on a shaft B, the shaft being arranged to have a continuous or a reciprocating rotary movement, either by hand or by power as described. Beneath this 'former' I place a roller C, having a profile as shown, the converse of and conforming to that of the 'former,' the shaft of the roller having its bearings in the main frame, D. The shaft of the 'former' has its bearings in a swing frame E.

"F is a treadle strap whereby the swing frame may be pulled down to give any required degree of pressure, and which also permits the eccentric former to rise and fall as in its movements it rides and rolls over the surface of the counter, the counter piece being placed centrally upon the 'former,' and being rubbed and rolled as well as squeezed between them while being brought to shape." . . .

"The 'former,' as will be seen, projects further from its axis on one side than on the other so as to conform nearly to the general form of the curves of the inside of a shaped counter. This gives a rolling action, in addition to the squeezing, over the whole body of the counter."

And after stating an alternative form in which the eccentric former may be made, and that two auxiliary rolls may be used, the patentee says: —

"Fig. 5 represents a shaped stiffener for a boot or shoe heel, and I claim: —

"1. The described apparatus for rolling to shape heel stiffeners or counters.

"2. I also claim as a new article of manufacture, heel stiffeners or counters shaped and compacted by a rolling action, as described.

"3. I also claim the process herein described of shaping and setting to shape heel stiffeners or counters by rolling, as distinguished from molding."

The state of the art showed that, previous to the time of Moffitt's alleged invention,

(1.) Ready-made shaped counters had been made by a mold and former.

(2.) That the *revolving roll, or former* circular in cross-section, operating like the Nichols machine, had long been in use for making rolled and crimped counters.

(3.) That machines for bending metals in two or more directions, of cognate action and application, for instance the Blood machine, had long been in use.

Taking the state of the art as Mr. Moffitt found it, — with a heel-shaped mold and former adapted to a dead pressure; and a former revolving upon a roll conforming in shape, as in the Nichols machine, he conceived the idea of curing *existing difficulties* by using the *heel-shaped former*, — more perfectly shaped than is used in the mold, — his *swinging frame* in which the former was journalled, the roll corresponding longitudinally with the former, like the corresponding part in the Nichols machine, and the treadle by which he applied his power *adapted to the varying diameter of the former*, by which he could give any required degree of pressure with the former rising and falling as it "rides and rolls over the surface of the counter"; and it is very apparent that Mr. Moffitt's invention, if any, consisted in the construction of a machine to give a more perfect heel shape to the ready-made shaped counter than the mold and former would give by dead pressure, by revolving or reciprocating the heel-shaped former against the roll (or rolls) with the blank between them, thus setting to shape the counter by a rolling pressure, and thus making "a more perfect ready-made shaped counter than could be made by molding, uniformly hardened and set to shape by a rolling pressure," *all in one operation.*

The object of Moffitt's alleged original invention was to "make more perfect *ready-made shaped counters* than could be made by any molding process."

The machine or contrivance to accomplish this object was the

apparatus *described in the patent for rolling to shape* the counters instead of *molding*.

He describes in his original specification the existing difficulties in the construction of counters his invention was designed to cure.

(1.) By reason of the peculiar shape of the counter required, a difficulty existed of getting an *equal and sufficient pressure on all parts of the counter, so as to get uniform hardness throughout.*

(2.) A further difficulty existed in getting a true and proper permanent form throughout all parts, because the *material differs in character* in different parts.

His Pat. Sp.

And the apparatus described consists mainly of "*a former, of a shape adapted* to give the *desired shape* to the counter and set *eccentrically* on a shaft," which is arranged to have a continuous or a reciprocating rotary movement, and beneath the former is placed a *roller*, with or without an auxiliary *roll* on either side of the main roller, hung in proper bearings, and all so arranged that the former may be pulled down so as to give any required pressure upon the blank placed between the former and the roller or rollers during the operation of the machine by reciprocating or revolving the former; and he says, "*Instead of shaping the stiffener in a mold, I employ no mold of any kind, but use a moving former.*" (See his specification.)

(3.) The specification further shows that one of the essential elements of Moffitt's machine to accomplish his object of making *more perfect ready-made shaped counters* was the *former*, set *eccentrically* upon a shaft projecting "further from its axis on one side than on the other, so as to conform nearly to the general form of the curve of the inside of the shaped counter." (See original specification, p. 118, 2d column.)

(*a.*) If the former is rounded at both ends, and the shaft pass through the centre, then each end performs the same office as if one end was rounded and it was set eccentrically.

(*b.*) This is confirmed by Moffitt's Evidence, p. 33, ans. 23, in reply to the question, "What led you to make application for your 1872 patent, No. 127,090, dated May 21, 1872?

"*Ans.* To cover the new process of *shaping counters*, and with a view to *shape them at one operation*."

And Ans. 24. He wished to protect himself in his new process of "*shaping counters*."

(4.) The mode of *shaping the counters* by the Moffitt machine is carefully described, viz., "the counter piece being placed *centrally upon the former*." This "eccentric former" is permitted by the treadle strap "*to rise and fall as in its movement it rides and rolls over the surface of the counter*."

And when the piece for the counter is prepared and placed on the "former" "a reciprocating rotary motion of something less than an entire revolution is given to its shaft so as to bring the most or all of the operating surface of the former into action." The shaft on which the roller revolves has its bearings in the main frame D of the drawings, and the heel-shaped former, not corrugated nor circular in cross section, operated upon the blank placed between it and the revolving roller C (with or without the auxiliary rolls C^1, C^2), having a profile the converse of and conforming longitudinally to that of the former, and thus the former and roller act upon "all parts coming between their peripheries."

The terms "roller" and "periphery," applied to C, C^1 and C^2, necessarily imply that they are made to revolve.

Waters' Ev., pp. 13, 14, ans. 12.

(5.) The Moffitt machine, described in his original specification, has no *effective provision* for causing the blank to adhere closely to the former in its operation, and this *essential requirement* must be supplied by the hand of the operator.

Waters, pp. 97–100, ans. 24.
Spencer, 69, ans. 82–84.
Hughes, p. 43, ans. 19.

(*a.*) The original patent is for the heel-shaped former set as described, and a single roll C, leaving it optional to use or not the rolls C^1 and C^2.

(1.) The means described by the patentee "*must be the essential*

and absolutely necessary means, and not merely adjuncts which may be used or abandoned at pleasure."

Russell *v.* Dodge, 93 U. S. Reports (3 Otto), 461, 462.
Booth *v.* Kennard, 1 Hurlst. & N. p. 527.
Stevens *v.* Keating, 2 Web. Pat. Cases.
Curtis, p. 172, sec. 258.

The patentee must be limited strictly to the machine, elements and apparatus devised and described in his patent.

The rule of law applicable is laid down in O'Reilly *v.* Morse, 15 Howard's Rep. p. 119, viz. : —

" Whoever discovers that a certain useful result will be produced in any one machine, manufacture or composition of matter, by the use of certain means, is entitled to a patent for it, provided he specifies the means he uses in a manner so full and exact that any one skilled in the science to which it appertains can, by using the means he specifies, without any addition to or subtraction from them, produce precisely the result he describes. If this cannot be done by the means he describes, the patent is void; and if it can be done, the patent confers on him the exclusive right to use the means he specifies to produce the result described, and nothing more."

Mr. Moffitt, with the Nichols machine for rolling counters, and the Hatch or Hill and Brown machine for giving the heel shape by dead pressure before him, conceived his machine as he originally described it, giving an improved heel shape to the former, — a shape to produce the ready-made *shaped counter*, — in place of the former circular in cross section like the old Nichols machine, seeking thus to overcome the difficulties he described in molding counters by dead pressure. But he could not use that shape of former in combination with a roll (or rollers), unless he took the further step of swinging his heel-shaped former set eccentrically in a frame, so that its axis might take different positions with reference to the roller

with which it was combined and allow all parts of its surface to be brought into contact with the roll.

The former is eccentrically set and shaped to give heel shape to the counter, and the swing frame and apparatus connected with it is requisite to operate it.

It is claimed by complainant's counsel that a *roll circular in cross section* is equally within the scope of the patented invention as one *heel shaped*, and irrespective of the device which co-operates with it to make it effective; that Mr. Moffitt was first to make the discovery that the rolling action of the "former" produced upon leather and leather board an effect that had never been produced before, in shaping, hardening and solidifying the material; that the invention of the patentee consists in the discovery that a *rotary or reciprocating former, applied by pressure, would form and set leather and leather board to a desired shape.*

1. But the *patent is upon the machine, the device* with which he seeks to accomplish the end, and not upon the object he has in view to be accomplished by the machine.

2. If the scope of the patent covers *any machine* having a rotating or reciprocating former, either circular or heel shaped in cross section, applied by pressure to form and set leather or leather board to shape for heel stiffeners, then the Nichols machine anticipates Moffitt's, which was used in 1851, and many others like it as shown in Nichols' and Sheldon's evidence above referred to.

The Nichols machine gives form to the stiffener, the same as Moffitt's, in each case the counter blank being held up to the former by hand during the operation.

If the scope of the Moffitt invention covers a cylindrical former, circular in cross section, then the difference in construction between the Nichols former and the Moffitt former is one of *degree*, and not invention.

Moore's Ev., p. 169, ans. 7–11.

See Exhibit "Moore Drawing."

(*a.*) Upon this theory of the invention, like machines have been used in rolling metals, in shaping them in different directions, long before the alleged invention by Mr. Moffitt.

Exh. Blood Pat. of Sept, 13, 1870, especially Fig. 4.

And the patentee in his original specification claims his invention to be, 1. "The described apparatus, for rolling to shape, heel stiffeners or counters"; having disclaimed or omitted the 2d and 3d claims of his original, in the reissue.

The Moffitt '72 patent was merely a *paper patent:* it represented no invention or machine which had ever been perfected and *reduced to practice.* The only machines which have ever been built, as claimed by either side, in accordance with the patent, are now in court, — Exhibit A, produced by the defendants, and Exhibit No. 4, which were made to be used as exhibits in this case. And it cannot be claimed that his invention is any broader than his original specification and model indicate.

Moffitt, pp. 41, 42, ans. 81–89.

THE COTÉ PATENT AND MACHINE.

In the Coté machine the principal elements important to consider are the rotary head, corrugated and circular in cross section, and the stationary mold.

The counter is shaped by "pressing the blank by means of a roller or former against a stationary concave molding surface, and at the same time moving or sliding such blank along against such surface," by means of the grooved rotary head; the mold having its inner surface very smooth, and where it is first to receive the leather or counter blank, being rounded or made with a mouth as shown at c^1.

In the Coté machine there is no rolling action upon the material, but there is a mold acting in combination with a former into which mold the piece to be formed is drawn by the surface of the former, the piece being kept to that surface by the mold, and the principal forming of the stiffener is accomplished by the very act of drawing it between the former and the mold which correspond in form, not only in the direction *of the length*, but also in the *direction of the circumference* of the former, thereby causing the surface of the blank in contact with the concave surface of the mold to be stretched in the larger portions and crimped in the smaller, and the blank to retain

substantially the shape which it is compelled to assume in passing between the former and the mold.

Moffitt's corresponds only *in the direction of the length.*
Waters, 14, ans. 12.
See Specification.

(*a.*) This construction requires a circular concentric former, and the *Moffitt former could not be used in the Coté machine.*

(*b.*) The Coté machine does not overcome the difficulties described by Moffitt, which his machine was designed to cure, by giving equal pressure on all parts of the counter so as to give uniform hardness throughout all parts of the material differing in character in different parts, but the mold is set or gauged at uniform distance from the former throughout during the passage of the blank through the machine.

(*c.*) The counter blank must be entered endwise.

(*d.*) The *product* of the Coté machine is not a *ready-made counter set to shape*, but is a *partially formed counter, circular in cross section, to be shaped for use by a subsequent independent operation.*

Moore, p. 116, ans. 9.
Pinkham, p. 114, ans. 9–12.

MOFFITT'S REISSUE.

This reissue, dated Dec. 8, 1874, was more than two and one half years after the date of the original. *It is not for the same invention as the original.* Certain changes were made in the specification and claims to effect an enlargement of the scope of the alleged invention in the reissue so as to include the Coté invention and machine, and make it possible for an expert to give a construction of the reissue which would include the Coté machine.

(1.) In the original the auxiliary rolls C^1, C^2, are not claimed by the patentee to be *essential to the invention*, but to be used or not at the option of the operator. In the reissue they *are essential elements* of the alleged invention.

(2.) For the terms "*rollers* C, C^1, C^2," in the original, the patentee substitutes the words "*supports or rollers* C, C^1, C^2."

(3.) He omits in the reissue every statement relating to the former being "set *eccentrically* on a shaft," or that the former projects further from the axis on one side than the other.

(4.) The claim for a new article of manufacture is omitted in the reissue.

It is manifest that this claim was omitted for the purpose of meeting the otherwise irresistible conclusion that the *thing made* by the machine as an article of manufacture would fix the exact construction of the machine to produce it; *and thus exclude the claim that the former might be circular in cross section.*

(5.) The third claim of the original, for a process of making counters as described, is changed by dropping that process claim, and substituting a claim for a process of forming the flange or heel seat only, *which can be done with a former circular in cross section.*

1. *The specification of the reissue omits each element of the "former" in the original specification which produces a heel-shaped counter ready made at one operation*, as essential to his invention, and substitutes in their place elements of the invention so broadened and changed as may make it possible to include the Coté machine.

(*a.*) The phrase, "I employ no mold of any kind, but use a moving former, A, devised by me, of a shape adapted to give the desired shape to the counter, and set *eccentrically* on a shaft B," etc., is so changed in the specification for the reissue as to leave out the word "*eccentrically*," and is made to read "and set on the shaft B," thus including a former, *circular in cross section*, as well as heel shaped.

Reissue Patent.

(*b.*) The original specification further says, "The former, as will be seen, projects further from its axis on one side than on the other, so as to conform nearly to the general form of the curves of the inside of the shaped counter. This gives a rolling action in addition to the squeezing over the whole body of the counter."

In the specification for the reissue, this entire quotation is omitted, thus making no distinction between a former circular or heel shaped in cross section.

(Compare original and reissue specification near foot of second column.)

(*c.*) The original specification says, "Beneath this former I place a roller C having," etc., making it optional to use more. The reissue specification says instead, "Beneath this former I place supports or rollers, C, C^1, C^2 (see Figs. 4 and 5), each having," etc , *making it essential to use the three.*

(Compare also the *claims* of the reissue and original patents.)

First claim of the original patent is for —

"1. *The described apparatus for rolling to shape heel stiffeners or counters.*"

The first claim of the reissue is for —

"1. *In a machine for making counters or stiffeners for boots and shoes a turning or revolving former in combination with mechanism for holding and shaping the blank over it.*"

The original for the *described apparatus.* The reissue a *broader claim*, covering a combination of a revolving former of *any shape with any kind of mechanism* for holding and shaping the blank over it, regardless of the mechanism by which the machine is operated.

The second claim of the original is omitted in the reissue. Since the machine claimed to have been the invention in the reissue would not necessarily produce the article of manufacture claimed, as shown in Fig. 5 of the drawings.

The second claim in the reissue is for : —

"2. *The revolving or turning counter former A, in combination with a supporting roll or rolls for rolling, or for rolling and flanging blank stock into heel stiffeners, substantially as shown and described.*"

This claim in the reissue is substantially for the apparatus described ; but it varies from the first claim of the original in the same way, and to the same extent as the apparatus described in the original differs from that described in the reissue specification. If it claims anything more or different from the original, it is broader and void.

The third claim in the original was for the entire process described, viz. : —

"3. *I also claim the process herein described of shaping and set-*

ting to shape heel stiffeners or counters by rolling, as distinguished from molding."

That is, with a heel-shaped former set eccentrically and operated as described in the specification.

In the reissue this claim is omitted and another substituted in relation to the process of forming the heel seat which was not mentioned in specification or claim of the original, as follows, viz. : —

"3. *The process described of forming the heel seat of a counter by means of a former having a motion about a center and which gives to the heel seat a drawing or rubbing action against a flange or bearing surface, in addition to the rolling action.*"

This claim calls for a former "having a motion about a center" instead of one set "eccentrically," and also one "which gives to the heel seat a drawing or rubbing action against a flange or bearing surface, in addition to the rolling action," instead of the rolling action alone, as claimed in the original. And applies only to the heel-seat instead of the whole counter. What possible explanation can be given for these changes, other than to meet in the claims the radical changes that had been made in the body of the specification?

The original specification made no mention of claim or apparatus to form the heel seat.

And the machine Exhibit A was constructed according to Moffitt's original specification, drawings and model, and no proper counter could be produced upon it.

Mr. Waters in his evidence, p. 12, says: —

"*Int.* 3. State whether you have ever seen a machine constructed like that described in the patent. If so, will you produce it to be marked as an exhibit in this case?

"*Ans.* I have; and the machine is here for that purpose.

"[*Exhibit A produced.*]

"*Int.* 4. Will you state whether this machine is constructed strictly in accordance with the description in the specification of the patent above referred to, including the drawings?

"*Ans.* It is.

"*Int.* 5. Have you witnessed the operation of this machine sufficiently to understand its mode of operation or manner of working? If so, will you state what you observed in regard to the results of operating the machine in the manner described in the patent?

"*Ans.* I have seen the machine operated, as far as it will operate according to the instructions of the patent, both on leather and on leather board, and the result was a perfect failure for the purpose of producing the heel stiffener described in the patent, or of any heel stiffener such as could be built into a shoe without lasting the leather after it came from the machine.

"The machine can do a little toward shaping a stiffener of leather, so far as regards the swell about the heel, but it can't make the heel seat of a stiffener either on leather or leather board, nor can it so change the molecular arrangement of the leather or leather board so as to get it into the form of a heel stiffener, nor so that it will retain the appropriate form which can be given to it by the machine, to any useful extent, so far as I have been able to discover. To state it briefly: I should say that the machine is good for nothing for the purpose of making heel stiffeners, in my judgment. . . .

"*Int.* 7. Did you find the machine to operate any better or worse, or differently, upon this leather board than it did upon leather?

"*Ans.* Worse. The leather board puckers much worse in this machine than leather; but both of them pucker about the heel seat, or where the heel seat should be, and the leather board puckers between the rollers otherwheres than at the heel seat."

And in answer to Int. 12 he says: —

. . . "Now, it should be observed that nothing but a concentric former, or a former round in the direction of its circumference, can operate in connection with a shell or mold for the purpose of shaping stiffeners in this contrivance of Coté, therefore the former of Moffitt cannot work in connection with a shell or mold such as is described in this Coté patent working in connection with its former. . . .

"It is true undoubtedly that the round former of Coté can be used in combination with rollers such as the Moffitt former is combined with in the machine described in the Moffitt patent upon which this suit is brought; but it can't make counters like Exhibit D if it is put in there, I believe, and the reason is, the three lower rollers in the Moffitt contrivance are not the equivalent of the mold in the Coté contrivance."

(1.) Thus, by the changes in the specification and claims of the reissue from those in the original patent, Mr. Spencer, the complainant's expert, is enabled to testify in substance that, in his judgment and construction of the reissued patent, the rolls in the reissue constitute substantially a *mold*, adapted to a former circular in cross section, and the *heel-shaped former* described in the original, means a *cylindrical former circular in cross section*, thereby making both elements of the machine in the reissue distinctly the reverse of the same elements in the original.

(2.) Coté's original patent was issued Feb. 23, 1874, and Moffitt's reissue Dec. 8, 1874, — some ten months after the date of the Coté patent; and the Coté machine was well known and understood by Mr. Moffitt when he procured his reissue, which was after the Coté machine had gone into extensive use, which was since May, 1874.

Moore, p. 116, ans. 9.

Andrews Ev., p. 81, ans. 40-43, viz.: —

"*Int.* 40. State whether you had any conversation with Mr Moffitt about toothing the former, and whether in connection with it any reference was made to the Coté patent or machine.

"*Ans.* We saw the desirability of having the former toothed from the start, — that is, Mr. Moffitt and myself. We did not tooth the former in the start because that was a device of Coté's, and it was our opinion that although he made no claim upon it, he would be likely in case we adopted it to reissue his patent and claim it." . . .

"*Int.* 41. If you had any conversation with Mr. Moffitt in relation to the reissue of his patent at or before the time he applied for the reissue in reference, especially to the Coté machine and patent, will you state what that conversation was.

Ans. When I first met Mr Moffitt he was contemplating the reissue of his patent with a view to commence a suit against S. B. Rogers & Co., and we had conversations at various times about the matter. I am not able to give much if any, of the exact conversations. The general tenor of it was as to the best claims to make.

"*Int.* 42. State whether or not, in considering what claims to make, reference was made directly to the Coté machine.

Ans. Certainly; I intended to state that in my last answer.

2. Moffitt's *reissue*, not being for the same invention described in the original, *is void*.

U. S. Rev. Stat., sect. 4916, p. 959.

(1.) Reissued Letters Patent must, by the express language of the statute, be for the same invention as the original; and when it appears, on a comparison of the two patents as matter of legal construction, that the reissued patent is not for the same invention as that embraced and secured in the original patent, the reissued patent is invalid; as that state of facts shows that the commissioner, in granting the reissue, exceeded his jurisdiction. And whether the reissue is for the same invention as the original or not is a ques-

tion for the Court in an equity suit, to be determined as a matter of *construction*, on a comparison of the two instruments.

Seymour *v.* Osborne, 11 Wallace, 544–546.
Sickles *v.* Evans, 2 Clifford, 203–222.
Russell *v.* Dodge *et al.*, 3 Otto, 460.
Russell *v.* Place *et al.*, 4 Otto, 606.

"The Court will look beyond the mere form of words in the claim of a reissued patent into the specifications of both the original and reissued patents; and even if on the face of the reissued patent it does not embrace anything not described or suggested in the original, nevertheless the Court will ascertain whether there is any substantive invention adequate to support a claim ingeniously worded, not so much for the purpose of describing what the patentee really intended, as of grasping within its terms some contrivance not within the knowledge or contemplation of the patentee, and for that reason, not by reason of inadvertence or mistake, not embraced in the claims of the original patent."

Forsyth *v.* Clapp, 1 Holmes, 283, 284.

3. *Mr. Moffitt now claims*, that his reissue having the term, "*Supports* or *rollers*" instead of the term "*rollers*" alone, as in the original, and omitting the description of an "*eccentric former*," which are two distinct essential elements of his device, and shaping the *claims*, to aid his purpose, has a construction substantially identical with that of the Coté reissue.

He claims that the "*supports*" operate as the "*mold*" in Coté's machine, and that the "former adapted to give the desired shape to the counter" may be circular in cross section like Coté's, and that the former must be made corrugated or grooved as a matter of mechanical construction, obvious to any mechanic skilled in the art (Spencer, p. 64, ans. 58–61); *that the roughening of the surface* of the rolls is an obvious mechanical expedient (Spencer, p. 63, ans. 52, 53; also Spencer, pp. 100, 101, ans. 2); that the supports or rollers *need not revolve* (Spencer, p. 64, ans. 54, 55, 57, 58); that the

term *supports* indicates a device which does not revolve (Spencer, p. 64, ans. 58 to 61); that the blank may be entered *endwise* in conformity to Moffitt's reissue (Spencer, ans. 66, p. 65); that the round former is as properly within Moffitt's reissue as heel-shaped former (Spencer, p. 106, ans. 18); that the term "support" in the reissue embraces some kind of supporting device *which is not a "roller"* (Spencer, pp. 64, 65, ans. 58 to 63).

(*a.*) If this construction of the reissue is correct, *it obviously is not for the same invention as the original, and the patent is void.*

4. If the reissue patent is not void on this account, then the language used in the *specification and claims must be construed to give no broader scope to the alleged invention than the original;* otherwise if the reissue is "made for the purpose of enlarging the scope of the patent, the rule of laches should be strictly applied." Mr. Justice Bradley, in giving the opinion of the Court in Miller *et al. v.* The Bridgeport Brass Co., 21 O. G. 201, 202, says: —

"The claim of a specific device or combination, and an omission to claim other devices or combinations apparent on the face of the patent, are in law a dedication to the public of that which is not claimed. It is a declaration that that which is not claimed is either not the patentee's invention, or if his, he dedicates it to the public. . . . If two years' public enjoyment of an invention with the consent and allowance of the inventor is evidence of abandonment and a bar to an application for a patent, a public disclaimer in the patent itself should be construed equally favorable to the public. Nothing but a clear mistake or inadvertence and a speedy application for its correction is admissible when it is sought merely to enlarge the claim."

In James *v.* Campbell *et al.*, 21 O. G. pp. 337, 341, etc., Mr. Justice Bradley, in giving the opinion of the Court, says: —

"When a patent fully and clearly, without ambiguity or obscurity, describes and claims a specific invention, complete in itself, so that it cannot be said to be inoperative or

invalid by reason of a defective or insufficient specification, a reissue cannot be had for the purpose of expanding and generalizing the claim so as to make it embrace an invention not described and specified in the original."

In giving the opinion of the Court in Burr *v.* Duryee, 1 Wall, 577, Mr. Justice Grier says: —

"The surrender of valid patents and the granting of reissued patents thereon with expanded or equivocal claims, when the original was clearly neither 'inoperative nor invalid,' and whose specification is neither 'defective nor insufficient,' is a great abuse of the privilege granted by the statute, and productive of great injury to the public. This privilege was not given to the patentee or his assignee in order that the patent may be rendered more elastic or expansive, and therefore more 'available' for the suppression of all other inventions."

FRAUDULENT REISSUE.

The original Letters Patent were not surrendered to correct any mistake or inadvertence therein, but to claim other alleged inventions or improvements, not made or discovered by complainant, and were surrended with the fraudulent intention to pirate the invention of Coté in the reissue, to deceive and mislead the public, and with a *view to commence this suit;* and it *was considered what were the best claims to make for that purpose.*

Andrews, p. 81, ans. 40–43.

In the winter of 1874 and 1875 Moffitt *discussed the question of* employing the partial matrix or mold in his machine, which matured into Exhibit Machine No. 5, and whether or not he could in such use avoid liability for infringement of the Coté patent.

Andrews, pp. 79 to 81, ans, 20–40.

Similar discussion was had by Moffitt at about the same time about "toothing" the former, which would produce the same effect as corrugating or grooving.

Andrews, p. 81, ans. 40.

1. *To repel this inevitable conclusion*, that these changes in the reissue from the original were made by Moffit to cover Coté's invention within its scope, the complainant attempts to fortify his claims to the invention shown in the Coté machine by his present claim that he *really made the invention* secured by his patent of May 21, 1872, reissued Dec. 8, 1874, in 1867, in connection with his machine for forming heel cases for rubber heels, having a cylindrical former.

2. *To establish this position*, Mr. Moffitt testified in his original evidence, p. 32, ans. 15, in substance, that no change has been made in the machine marked "Exhibit Machine No. 3," except that the rollers or formers were taken out by another party without his consent, and he had those two put in just like what was originally in there, and the machine is now just like what it was in 1867, when he made counters and casings upon it. And Moffitt, p. 31, ans. 9.

3. The newly discovered evidence upon this point shows that the only elements of Exhibit Machine No. 3 material to this issue, viz., the *presser bar* on the machine, and the construction of the rolls adapted to the making of metallic counters upon it, were *wholly wanting* in that original machine of 1867, and no such metallic counters were then made upon it, and the construction of the rolls was such that such counter *could not have been made upon it.*

Wise, Ev., p. 126, ans. 13–17.
Andrew M. Cary, Ev., p 144, ans. 25–29.
John Ashman, Ev., p. 153, ans. 8–10, and p. 154, ans. 21, 22.

The original machine claimed by Mr. Moffitt to have been made in 1867, and to be the identical Exhibit Machine No. 3 (except the new rolls), was in fact like Exhibit Wise Machine.

(*a.*) Wise made it, and he alone used it. (His Ev., *ante.*)

(*b.*) Cary and Ashman worked with Wise on the same bench; saw and examined the machine so made.

(*c.*) The rolls were constructed as shown in Exhibit Wise Model, with a shoulder at base of the convex roll, so constructed that a counter could not be made upon them.

Wise, Ev., p. 126, ans. 12, and p. 127, ans. 22.
Cary, Ev., p. 144, ans. 25–28.
Ashman, Ev., p. 154, ans. 21, 22.

(1.) No metallic counters were made on the 1867 machine.

Wise, Ev., p. 126, ans. 12.
Ashman, Ev., p. 143, ans. 18.
Cary, Ev., p. 127, ans. 24.

(*a.*) These three witnesses were in a posision to know.

With Wise it is not a matter of recollection of what he had seen, but personal knowledge of what he did.

(*b.*) Cary and Ashman were with him when the machine was made; it was a new thing, and excited their curiosity, and fixed their attention and memory.

(2.) Defendants further show that the Exhibit Machine No. 3 was *wholly made new*, except the blocks in which the rolls are journalled, in 1875, or later.

Emery, Ev., pp. 161, 164, 165, ans. 7–27.
Matterson, Ev., pp. 194, 195, ans. 64–69.

(*a.*) *Then instead of its being the identical machine made in* 1867, *except the rolls, no part of it was identical except the block in which the rolls were journalled.*

(*b.*) After this is proved, Moffitt is recalled and states on each material part substantially the same, *in direct contradiction of his former testimony* (Moffitt, Ev., p. 208, ans. 2), and when the machine was made over again it was taken to his counsel's *office* for evidence.

Moffitt, Ev., p. 226, ans. 116.

(3.) Moffitt had sworn in his original evidence that he made metallic counters, like Exhibit Moffitt No. 1, on his original machine in 1867.

(*a.*) This is contradicted by Wise, Cary and Ashman.

(1.) They never knew of such counters being made.

(2.) Wise was the only one who used the machine while in his charge, and he never made any such counters nor knew of any being made.

(*b.*) Moreover, the rolls were so constructed that counters like Exhibit Moffitt No. 1 could not have been made on the machine.

(*c.*) The witnesses for complainant, introduced to confirm Moffitt as to the likeness of the 1867 machine to Exhibit Machine No. 3, are indistinct in recollection and uncertain, from the great length of time which has elapsed, and slight attention given by them to the machine when they saw it. This is disclosed in the cross-examination of each witness.

A machine is placed before them, and they are asked by complainant if they have ever seen the like before, to which some kind of an affirmative answer is made. The sight of the machine, aided by their previous conversations with complainant, enables them to assent to the required answer, although ten or twelve years had intervened to obscure a recollection of things which were never impressed upon the memory. Such evidence can have but little weight.

Tetlow, Ev., p. 174, ans. 40.
Bisbee, Ev., p. 178, ans. 34.
Collett, Ev., p. 183, ans. 40–46.
Allyn, Ev., pp. 191, 192, ans. 17–25.
Peverly, Ev., p. 198, ans. 25–34.
Salisbury, Ev., p. 220, ans. 31–35.
Woods, Ev., p. 205, ans. 16–21.

(*d.*) But among them all, *not one* could remember anything about *any space between the base of the convex roll and the plate or block beneath it, by which means it would have been possible to make a metallic counter like Exhibit Moffitt No.* 1.

Tetlow, Ev., p. 174, ans. 36.
Bisbee, Ev., p. 178, ans. 34.
Collett, Ev., p. 183, ans. 42–46.
Allyn, Ev., pp. 191, 192, ans. 17–25.

Peverly, Ev., p. 198, ans. 25–34.
Woods, Ev., p. 205, ans. 20.
Salisbury, Ev., p. 229, ans. 31–35.

And no one has testified to ever having seen or known of a metallic counter being made thereon.

(*e.*) Those of them that recollected anything of a handle or bar corresponding to any extent with the pressure bar on Exhibit Machine No. 3, had but little or no knowledge as to its having a piece upon it extending partially between the rolls, or if it had, whether it was adapted to the former, and they differed as to the form of the bar.

Bisbee, Ev., p. 178, etc., ans. 31–35.
Collett, Ev., p. 184, ans. 49–59.
Allyn, Ev., pp. 191, 192, ans. 18–27.
Peverly, Ev., p. 198, ans. 25–27.
Woods, Ev., p. 207, ans. 49–52, and p. 205, ans. 16.
Salisbury, Ev., p. 329, ans. 38–42.
Tetlow, Ev., p. 172, ans. 3.

(*f.*) This *bar* referred to by the witnesses may have been the *wrench used upon the eccentric bushings* in which the rolls were journalled, instead of a pressure bar.

Wise, Ev., p. 231, ans. 3–7.
Salisbury, Ev., p. 231, ans. 40, 41, and pp. 238, 239, ans. 2–7.

4. That original invention and machine of 1867, whatever it was, *was totally abandoned*, and resurrected only after Coté's invention had been given to the public.

(*a.*) Moffitt fails to produce the pretended *pressure bar* of 1867, or the *rolls*, or a single vestige of any of the original 1867 machine, *which are material elements in this case.*

(*b.*) To overcome this embarrassment, and at the same time the suggestion of abandonment of whatever he had, he changes his original evidence that the *rolls were taken away without his consent*, and now, with the aid of Matterson, puts them carefully away in a keg with the pressure bar, and insinuates that Wise stole the keg.

(*c.*) This insinuation is repelled by Wise.

Wise, Ev., pp. 232–234, ans. 11–26.

Moffitt, Ev., pp. 214, 215, ans. 32–35.

(*d.*) The machine had been taken apart, portions used for other purposes, — sold at auction with old iron or put away with old scraps.

Wise, Ev., p. 128, ans. 30–33.

Cary, Ev., pp. 144, 145, ans. 34–41.

Bisbee, Ev., p. 176, ans. 12–16, and p. 177, ans. 24.

It was sold at auction.

Salisbury, Ev., p. 228, ans. 21–24, and p. 239, ans. 7–15.

Whatever Moffitt's invention of 1867 *embraced, no part of it was embodied in his alleged invention, specification or model of the original patent of* 1872; *and as that invention was never reduced to practice, he must be limited strictly to the machine, elements and apparatus devised and described in his patent.*

The rule of law applicable is laid down in O'Reilly *v.* Morse, 15 Howard's Reports, p. 119, before quoted.

5. If Moffitt had made the Exhibit Machine No. 3, or another like it, why did he get his patent in suit of May 21, 1872, *wholly ignoring the pressure bar and the provision for making a heel seat, which were absolutely essential elements to make the machine operate* successfully for making counters.

(*a.*) Moreover, he expended large sums of money before he reached the perfection of his Exhibit Machine No. 5, which involves the same substantial mode of operation as his Exhibit Machine No. 3.

He commenced developing the business with a revolving former in June, 1873.

This was experimental for making counters at each end of the former at the same time from pulp and from leather board, at a cost of $1,500, and from four to six months' time, patented July 21, 1874.

This was a failure, and abandoned.

Moffitt, p. 34, ans. 25, 27, 28.

Moffitt, p. 39, ans. 67–70.

Moffitt, p. 41, ans. 89, 90.

He next, commencing about beginning of 1874, built two machines which formed a counter by means of a female mold with a revolving former passing over its inner surface; and on these machines he spent about $3,000, and six months' time; but these machines were abandoned as a failure. This was after Coté's application, Jan. 3, 1874, and patent Feb. 24, 1874, p. 24.

Moffitt, p. 34, ans. 29–32.

His next machine was made in summer and latter part of 1874, substantially like his patent of 1872, in suit, *except he put supports between the auxiliary rolls and made his former a true circle;* this he experimented with sufficiently to satisfy him that his idea of forming counters by two operations was the true way, and this was abandoned.

Moffitt, p. 39, ans. 72–74.

His next machine was commenced in the latter part of 1874, and completed in the early part of 1875, represented by Exhibit Machines No. 5 and 6, which has been operated successfully with some additional devices.

Moffitt, p. 34, 35, ans. 32–35.

Moffitt, p. 39, ans. 74.

To reach this point of success he had expended about *four years* of time and about $21,000 to $23,000 in money. He *abandoned* his alleged invention claimed in his patent of 1872 in suit, and devoted this long time and great sum of money to produce a successfully operating machine, shown in Exhibit Machine No. 5. *At about the same time*, viz., Nov. 23, 1874, he made his application for his reissue, which was granted Dec. 8, 1874, while he was constructing his successful machine, Exhibit No. 5.

(*b.*) But this machine, finally reached, which proved successful, represented by Exhibit Machine No. 5, has in it the *mold* and revolving former circular in cross section, substantially the same as the Coté machine, and is made effective thereby, *entering the blank endwise.*

Waters, p. 92, ans. 8.

Spencer, pp. 70, 71, ans. 95–105.

See Exhibit C and Exhibit Machine No. 5.

The mold or matrix in this No. 5 is narrower than in the Coté machine, but has the same function. And the additional roller in Exhibit Machine 5 and the former *operate as feed rollers;* and this additional roller may be dispensed with by corrugating the other roller and operating it as in the Coté machine.

Waters, p. 92, last part, ans. 8.
Andrews, pp. 80, 81, ans. 36–40.

But this machine, Exhibit Machine No. 5, is not substantially like Moffitt's reissue.

Waters, pp. 97–99, about middle of ans. 24.

6. Mr. Moffitt *never perfected his alleged invention*, and was *not a first and original inventor of what he claimed;* the alleged invention described in his patent will not accomplish the object claimed by him, nor produce any beneficial effect.

(1.) This appears from his own estimate of it, as shown by his acts from the date of his patent in 1872 until the issue of the Coté patent, and his appropriating its principle in Exhibit Machine No. 5. Why the expenditure of more than $20,000 and four years of time to get a successfully operating machine, if his patented invention had not been a failure? If it had been what he now claims, identical with the Coté machine, it would have turned out 6,000 counters a day, equal to Exhibit I.

Hurlbut, p. 26, ans. 7.

(2.) He never built a machine claimed to be like his said patent until that marked "Exhibit Machine No. 4," which was constructed to be used as an exhibit in this case, and was completed in June, 1877, and none ever has been put into use.

Moffitt, p. 40, ans. 81–89.

He did not give to the public and the trade the great advantages claimed for him by his alleged invention; his efforts and great expenditures had been abortive until several months after Coté's perfected invention and machine was in full operation before him, when by his

a tful devices he attempted to not only embody it in his machine Exhibit Machine No. 5, but also to cover it in his reissued patent.

(*a.*) The machine described in the patent in suit is shown in Exhibit A, and with certain modifications in Exhibit Machine No. 4, both of which are failures in the accomplishment of the objects claimed by the patent.

Waters, pp. 12–14, ans. 4–12.

Mr. Spencer thinks Mr. Waters is mistaken in this respect, and produces Exhibit Machine No. 4 as the embodiment of the patented invention, and the counters marked "Exhibit Spencer No. 1," made by him.

This was done when the heel-shaped reciprocating former was in the machine.

He also produces Exhibits K and L, as made by him on Exhibit Machine No. 4 while on the stand.

Spencer, p. 60, ans. 32–34.

Hughes produced six pairs made by him on Exhibit Machine No. 4, marked "Exhibit Hughes No. 6."

Hughes, p. 43, ans. 13.

These exhibits were all made by Spencer and Hughes, in June, 1877, in presence of the complainant's counsel, for exhibits in this case.

The blanks were *notched* before being put into the machine.

Spencer, p. 60, ans. 34.
Hughes, p. 44, ans. 29, 30, etc.

But Spencer No. 1 *and Hughes No.* 6 *exhibits are not merchantable, and are worthless as counters.*

Mr. Andrews in his evidence, pp. 82, 83, ans. 49 to 52, testifies.

"*Int.* 49. Will you look at the counters marked complainant's Exhibit Spencer No. 1 and complainant's Exhibit Hughes No. 6, and state whether in your judgment they are good merchantable counters or such as could be used to advantage in the manufacture of shoes?

"*Ans.* My opinion of those stiffenings, founded on the experience I have had with my customers, is that they are not merchantable. I have no customers that would use such counters. I say this because I have had many stiffenings returned to me which I consider much better than the exhibits referred to. These counters which I now produce are fair samples of one barrel which I have had returned to me from two different customers, and these three counters are in my judgment far superior to the exhibits referred to in the question."

[*The samples produced are Exhibits Q.*]

"*Int.* 50. What would be the value of counters like those referred to in the last question as compared with the value of the stock before it was subjected to the operation of the machine by which the counters were produced?

"*Ans.* I have no customers to whom they would have increased value. In fact, I doubt if my customers would use them at any price. Exhibit Q, I offered twenty-five per cent under my regular price, and they were returned to me.

"*Int.* 51. Will you point out the defects of the counters referred to in my previous question?

"*Ans.* One defect is that they have no well-defined heel seat; the second defect is that the top of the counter is too flaring, and consequently they would stick out and show through the outside of the shoe, and these are the two principal things for which we shape counters."

Referring to Exhibits, Spencer No. 1, and Hughes No. 6, Mr. Waters, page 89, answer 4, testifies: —

"*Int.* 4. How do these stiffeners produced by Mr. Spencer and Hughes correspond with the stiffeners represented in Fig. 6 of the reissued patent as the thing which could be made upon the machine described in the patent?

"*Ans.* They don't correspond at all. The stiffener represented at Fig. 6 is, according to the patent inquired of, a perfect ready-made shaped counter; but these exhibits are not: they are not ready made to shape, nor are they perfect. Whenever they *are built* into a shoe they will have to be reshaped in the building."

Mr. Moore, in his evidence, page 116, testifies: —

"*Int.* 10. Will you look at the counters now shown you marked 'Complainant's Exhibits Spencer No. 1,' 'Spencer No. 4,' 'Hughes No. 5,' and 'Hughes No. 6,' and state whether or not such counters would have been merchantable and adapted to the trade in 1872 and 1873?

"*Ans.* I don't think they would have been merchantable or

adapted to the trade at that time. I don't think any manufacturer would have offered such counters to the trade?

"*Int.* 11. Why not?

"*Ans.* Exhibit Hughes No. 5 have no heel seat that is available for fastening them to the sole of the shoe, unless they are lasted over in a new place, which would be more difficult than if they were flat. One great objection to the other exhibits mentioned is the fact that they have no well-defined heel seat; besides this the notches on many of them would cause the heel seat of the shoe to be angular instead of the segment of a circle; also nearly all of them flare too much at the top. These opinions are based on my experience in the trade since 1872 and 1873."

Pinkham, pp. 114, 115, testifies: —

"*Int.* 12. Will you look at the counters now shown you marked 'Complainant's Exhibit Spencer No. 4,' 'Complainant's Exhibit Spencer No. 1,' 'Exhibit Hughes No. 5,' and 'Complainant's Exhibit Hughes No. 6,' and state whether or not these counters or such as would have been merchantable and adapted to the trade in 1872 and 1873?

"*Ans.* I should not consider them worth any more than flat ones. The flange is so narrow that they would have to be turned over before they could be used in shoes. I refer to them all. There is no heel seat at all. They are too straight in the back. I refer to Hughes No. 5, and Spencer No. 4 and No. 1 are narrow, and these notches in the flange would show in the heel seat, many of them. There is no real heel seat to any of them."

(*b.*) The counter marked "Exhibit Hill" is not a fair specimen of counters made by Hill & Brown in 1872 and 1873, and not merchantable, nor such as were used in the trade at that time.

Pinkham, p. 114, ans. 6, 7.

Moore, p. 115, ans. 4, 5, and Exhibit S, *which was made from the same machine used by Moore*, directly after the use by Hill & Brown, and a fair sample of Hill & Brown's.

Moore, pp. 115, 116, ans. 6, 7.

7. Exhibit Machines Nos. 1 and 2 and No. 3 are different in their operations from the Moffitt reissue.

Waters, p. 89, ans. 5; pp. 97–100, ans. 24.

Nos. 1 *and* 2 *are used with an outside speed roller, to produce great friction upon the counter while the machine is in operation.*

Hughes, p. 44, ans. 32, and p. 42, ans. 8.
Waters, p. 89, ans. 5.

Exhibit Machine No. 3 is not the patented invention, and totally unlike it.

Waters, pp. 91, 92, ans. 7.

In this machine the two rollers operate as feed rollers to drive forward the material against a stationary surface, which can be brought to press against the material to be operated on upon one of the feed rollers for the purpose of shaping it. It was for making metallic counters, and the flange so narrowed that it would require relasting in the shoe to turn a wider flange; and hence the counters produced as exhibits, made on either Exhibit Machine No. 1 and 2, or No. 3, *are wholly immaterial.*

Exhibit Machine Nos. 1 and 2 dispenses with the auxiliary rollers which *Mr. Spencer says is the best form of the Moffitt machine; and the forming to shape in the direction of the former is done by the hand.*

Spencer, p. 69, ans. 82 and 84.
Waters, p. 98.
Moffitt, p. 37, ans. 49.

This machine, Exhibit Machine 1 and 2, and the Moffitt machine with a single roller C, embodied no new invention; since by the *state of the art* in the use of rollers operating together for rolling shoe sole, etc., the same substantial machinery was in use, and the form is given to the counter *by the hand*, and not by the machine.

Waters, pp. 97–100, ans. 24.

8. *Moffitt's final experiment, his first successfully operating machine, Exhibit Machine No.* 5, produces no *more counters per day than* Coté's machine, Exhibit C.

Hughes, p. 42, ans. 7, on Exhibit No. 5.
Hurlbut, pp. 26, 27, ans. 7 and 12, on Exhibit C.

(*a.*) The Coté machine, Exhibit C, makes a *clearly defined heel seat*, as shown in Exhibit I, made upon it.

While the Moffitt machine, Exhibit A, and modified as in Exhibit Machine No. 4, fails utterly in that particular, as well as otherwise. Shown in Exhibits K, L, Spencer No. 1 and Hughes No. 6.

Moore, pp. 116, 117, ans. 10, 11.
Andrews, pp. 82, 83, ans. 49, 50, 51, 52.
Pinkham, p. 114, etc., ans. 12.

Complainant replies to the evidence of the worthlessness of the counters made on Exhibit Machine No. 4, by a new batch of experimental counters produced.

Exhibit Spencer No. 9, Spencer, p. 102, ans. 5.

But Exhibit Machine No. 4 was essentially changed when Exhibit Spencer No. 9 were made from what it was when Exhibits K, L, Spencer No. 1, and Hughes No. 6 were made.

The former and its supports are not the same ones. The former is corrugated, and circular in cross section. The supporting roller has a broader flange, and adapted to make a more defined angle. The bearings at one end of the auxiliary rolls are removed and the rolls supported by a backing of a Babbitt metal along the outer side, made necessary by the increased width of the flange on the main roller, thus *compacting the rollers* and changing the whole arrangement from that described in Moffitt patent or shown in the original Exhibit Machine No. 4, or in the model, Exhibit G, or Exhibit A.

Spencer, p. 102, ans. 5; pp. 106, 107, ans. 17–22.

And Exhibit Spencer No. 9 *is worthless*, — too straight back, too narrow heel seat, and too flaring compared with Spencer No. 1, Hughes No. 6, and the evidence referred to relating thereto.

INFRINGEMENT.

The defendants *have not infringed* the complainant's patent.

(1.) The Coté invention and machine does not contemplate the forming of a *ready-made shaped counter*, but the *partial* formation

of a counter, circular in cross section, to be *shaped* by a subsequent operation.

And the counter is not produced by a *rolling* action, like Moffitt's, by carrying the material back and forward by the bite between two rollers, but by seizing the end of the counter blank by the corrugations of the former as it enters between the former and the mold, which are substantially parallel, and dragging the material endwise into the mold, and forcing it to take the form of the two surfaces of the mold formed by the matrix and former. While the former holds the blank upon the inside by its corrugations, its revolution causes the outer surface of the counter to slide upon the surface of the mold.

Coté's is a *sliding*, Moffitt's a *rolling* action.

The theory of Moffitt in his '72 patent is, that rolling the counter between a heel-shaped former and a longitudinally conforming convex roll will produce a ready-made shaped counter. The mode of operation described is the well-known mode which any pair of rolls have upon leather or paper. The former and the conforming roll traverse over the counter blank, carrying the counter with them, going from line to line, as *fast as a new line is released from compression;* the action is equal upon the *inside* and *outside* of the counter. They may either of them slip upon the counter the same as any pair of rolls may slip upon leather or paper which is being rolled. The auxiliary rolls in the patent are so arranged that their lines of motion, when acted upon by the rotation of the former, are *toward and from points some distance outside of the axis of the former*, and the portion of the bar which carries said rolls projecting some distance *above* its *bearing*. The effect of a rotation or reciprocation to any considerable extent of said former would have a tendency to throw the auxiliary rolls laterally away from the former at a line different from that which would be endwise of the bars which carry said rolls, and thereby cramping said bars in their bearings, and prevent the desired endwise motion to some extent, and be likely to cause the former to be raised from the central supporting roll, and prevent a good or effective action upon the counter blank interposed between

them, such as would be necessary to produce a merchantable counter.

In working the Coté machine, there is constantly a *slight curl* of the counter blank in front of that part of the mold which surrounds the smallest part of the ball. This fulness of curl is constantly seized by the teeth or corrugations on the former and formed into slight plaits, which are driven into each other as the counter is shoved into the mold, and that part of the counter is shortened while that part of the blank which surrounds the large part of the ball or former is stretched. And further, in the action of the Coté machine there is no action of the former upon the inner surface of the counter, except to press the teeth of the former into the blank. This is accomplished as soon as the blank is fully entered between the former and the mold, and from that point until it emerges from the mold the counter blank becomes, as it were, a skin or tire upon a ball. There is no movement of the *former* upon the surface of the counter, while the *mold* has a universal rubbing action over the whole exterior surface of the counter.

In his specification Moffitt disclaims the *use of a mold of any kind*, and the former he describes *cannot be used* in a mold like Coté's. The mold cannot yield to conform to the varying distances of different parts of the former from its axis. The roll and the side or auxiliary rolls of Moffitt cannot operate as molds with the former described in his original patent, since, as a necessary condition, they must yield as the distance from the axis increases, and return as it diminishes by the resiliency of the spring or operation of weights, and this without regularity or uniformity.

(2.) This is manifest from the construction of the two patents, and confirmed by an inspection of the Coté machine made according to his patent, Exhibit C, as compared with Exhibit A, the model G, or Exhibit Machine No. 4, and by Mr. Waters' evidence.

Waters, pp. 14, 15, ans. 12.
Waters, pp. 16, 17, ans. 17.
Waters, pp. 23, 24, ans. 56, 57.

The Moffitt machine, like the description in the patent, model G, or Exhibit A, can form no defined heel seat.

Waters, p. 12, ans. 5.
See machine and model, and exhibits made upon it.

It is well settled that no patent which has not been reduced to practice will cover any device other than that described in the specification and drawings or its substantial equivalent.

An infringement will not have taken place unless the invention can be practised completely by following the specification; otherwise, it has been said, it would be an infringement to do that perfectly which, according to the specification, requires something else to be done to make it perfect.

If it cannot completely be done by following the specification, then a person will not infringe the patent by doing it completely.

Curtis on Patents, 4th Ed., p. 272, sec. 237, and *notes*.
Morgan *v.* Seaward, Web. Pat. Cas. 107, 181.

CHAUNCEY SMITH,
T. L. WAKEFIELD,
Of Counsel.

School District of Ackley.

v.

Hall.

Motion.